consultants

Regulated Building Materials Survey Report

Purpose: Pre-Demolition

Client:
Hahn and Associates, Inc.
434 NW 6th Avenue, Suite 203
Portland, Oregon 97209

Project:
Multiple Buildings
635-655 Manzanita Avenue
Manzanita, Oregon 97130

G2 Project #: 22-1340

August 24, 2022

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Purpose of Inspection:	Pre-Demolition
Scope of Inspection:	Multiple Buildings
Project Address:	635-655 Manzanita Avenue
Project Address 2:	Manzanita, Oregon 97130
Project Description:	Regulated Building Materials Survey
Owner or Facility Operator:	City of Manzanita 167 S 5th Street Manzanita, Oregon 97130
Owner or Facility Operator Phone #:	503-812-2514

Technical Certifications

Consultant	Discipline	Certification #	Regulatory Agency	Phone Number
Noal Kraft	Lead-Based Paint Risk Assessor	1842-Indv-R 9151842-RA	EPA / OR Health Authority Oregon CCB	503-784-2941
	Asbestos Inspector	IR-21-1561A	EPA	

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Executive Summary

G2 Consultants (G2) was retained by Hahn and Associates, Inc. (HAI) to conduct a regulated building materials survey. The survey included a building inspection for asbestos-containing materials (ACM), lead-containing paint (LCP), and a visual inspection for universal waste and items suspected of containing mercury or polychlorobiphenyls (PCB). As part of the scope, a mold assessment was also conducted. The survey was conducted at the commercial property located at 635-655 Manzanita Avenue in Manzanita, Oregon. Authorization was provided by Gary Hahn with HAI.

Date(s) of Inspection: August 1 & 2, 2022

Purpose of Inspection: Pre-Demolition

Scope of Inspection: Regulated Building Materials Survey

Asbestos
Results of this inspection have determined that asbestos is present in the following materials:

Asbestos-Containing Materials Identified or Presumed - Overview				
Material Description	Material Location	Approx. Quantity	Condition	Friable Y/N
Floor Tile, 9” x 9” Blue & Black Mastic	Areas 1-8, 10 and 11 Floor tile and mastic are located on the counters in Area 8 and potentially under cabinets/fixtures and walls throughout.	860 sq. ft. 3,690 sq. ft. (Under Carpet) 300 sq. ft. (Under Various Flooring Materials)	Good	N*
Light Fixture Insulation	Areas 1, 2, 3, 7, 8, 10 and 11 (Note: Some of the lights have been removed and are located on counters and in cabinets)	40 fixtures	Good	Y
Texture, Drywall & Joint Compound	Throughout Areas 1-15. (Note: Drywall was observed above ceiling tile, and behind plaster in some locations. Therefore it is assumed to throughout Areas 1-15).	19,400 sq. ft.	Fair-Good	Y

Asbestos-Containing Materials Identified or Presumed - Overview				
Material Description	Material Location	Approx. Quantity	Condition	Friable Y/N
AirCell Pipe Insulation	Material observed in attics of Areas 1, 3, 4, 5 and 6. It was also observed in Area 9 and assumed to be throughout Buildings 1 and 2. Bagged Insulation was also observed in Areas 9 and 17	300 lf.	Fair-Poor	Y
Pipe Fitting Insulation	Material observed in attics of Areas 1, 3, 4, 5 and 6. It was also observed in Area 9 and assumed to be throughout Buildings 1 and 2. Bagged Insulation was also observed in Areas 9 and 17	60 Fittings	Fair-Poor	Y
Boiler Insulation	Area 9	80 sq. ft.	Fair-Poor	Y
Silver Coating	Building 3 - Exterior and Debris Present on Ground	5,300 sq. ft.	Poor	Y
Roof Patch & Repair Material, Black	Buildings 1 and 2 Roof	425 sq. Ft.	Good	N*
Silver Coating on Built up Roofing	Buildings 1 and 2 Roof	8,870 sq. ft.	Good	Y

* - This material may become friable during abatement activities

Lead-Containing Paint

Results of the inspection have determined that lead-based paint (LBP) was identified in multiple areas throughout the interior and exterior of the structures, that is equal to or above the concentration of 1.0 milligram per centimeter squared (mg/cm^2). LCP below the threshold concentration of 1.0 mg/cm^2 was identified on additional painted components. One non-paint material, a sink, was identified with a lead concentration equal to or above the threshold of 1.0 mg/cm^2.

Universal Waste, Mercury and PCBs

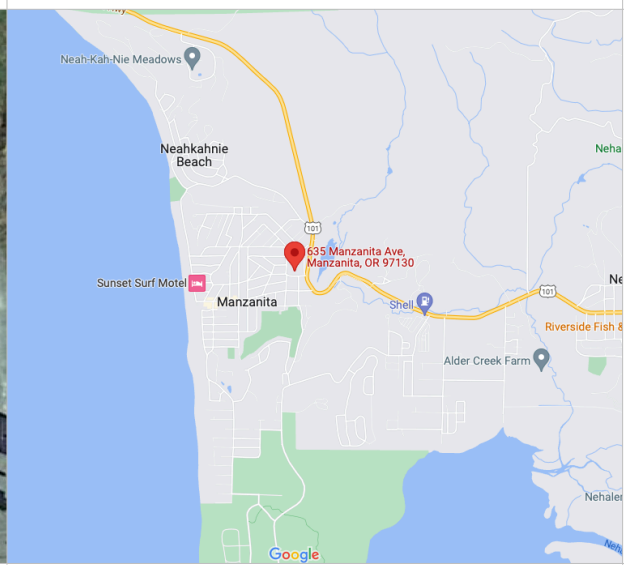
Results of the inspection indicate that items suspect for containing mercury and PCBs, or that are classified as universal waste, such as fluorescent tubes, ballasts, and thermostats were present in the structures included as part of this scope of work.

Mold
Results of the inspection indicate that staining and mold growth was observed throughout the four buildings. Based on the results of the non-viable mold air samples collected in representative locations, the presence of elevated presence of airborne fungal spore concentrations were identified, when compared to outdoor levels.

Details of the inspection, descriptions and locations of materials, quantities, condition and friability can be found in the following sections of this report.

Description of Structure(s)

Type of facility:	Multiple Buildings
Past uses:	School, Commercial and Storage
Age of construction:	~1948
Approximate square footage:	10,785 sq. ft.
Number of floors:	Single Story
Outbuildings included in inspection:	None

Aerial Photo of Subject Property	Location of Subject Property
	

Scope of Inspection

G2 was contracted by HAI to perform a regulated building materials survey. The survey included a building inspection for ACM, LCP, and a visual inspection for PCBs, mercury and universal waste. As part of the scope, a mold assessment was also conducted. The survey was conducted at the property located at 635-655 Manzanita Avenue, in Manzanita, Oregon. The scope of work included the interior, exterior, attic and roof, as specified by HAI.

The site includes two buildings, with a covered corridor between them, that represents the original school on the west side of the property. These buildings were vacant and not currently utilized. On the east side of the property, is a Quonset hut building utilized for storing the cities' emergency response equipment. A fourth building/garage is attached to the Quonset hut, and is currently used to store maintenance equipment.

Asbestos

The scope of services was to perform a visual and tactile inspection, and identify the presence, quantity, and location of the accessible ACM, within the area(s) of the scope of work. All identified accessible suspect materials were sampled. Some destructive sampling techniques were utilized during this survey to gain access to potentially hidden materials. Additional suspect materials may be present in other interstitial spaces that were inaccessible at the time of the site visit.

Lead-Containing Paint

Readings of the lead content of painted surfaces throughout the interior and exterior of the structures were collected using an X-Ray Fluorescence (XRF) device. The readings were taken on the predominant interior and exterior colors of paint to provide a general understanding of the distribution of lead in these surfaces.

Universal Waste, Mercury and PCBs

A visual inspection of the buildings was conducted for the presence of universal waste and items suspected to contain PCBs and mercury.

Mold

G2 performed a visual assessment and air sampling for fungal growth and moisture-related issues at the site. The purpose of the investigation was to conduct a visual assessment, to address the concerns related to suspect mold growth, and recommend corrective actions.

Inspection Findings

Asbestos

Results of the survey indicate that asbestos is present in the materials listed in the table below and following pages:

Asbestos-Containing Materials Identified

HM No.†	Material Description	Material Location	No. of Samples	Approx. Quantity	Asb. Type & Percent	Condition	Friable Y/N
4/5	Floor Tile, 9" x 9" Blue & Black Mastic	Areas 1-8, 10 and 11 Floor tile and mastic are located on the counters in Area 8 and potentially under cabinets/fixtures and walls throughout.	2	860 sq. ft. 3,690 sq. ft. (Under Carpet) 300 sq. ft. (Under Various Flooring Materials)	Tile - Chrysotile 7% Mastic - 2% Chrysotile	Good	N*
9	Light Fixture Insulation	Areas 1, 2, 3, 7, 8, 10 and 11 (Note: Some of the lights have been removed and are located on counters and in cabinets)	2	40 fixtures	Chrysotile 90%	Good	Y
11/12	Texture, Drywall & Joint Compound	Throughout Areas 1-15. (Note: Drywall was observed above ceiling tile, and behind plaster in some locations. Therefore it is assumed to throughout Areas 1-15)	3	19,400 sq. ft.	Texture - Chrysotile 2% Joint Compound - Chrysotile 3% Drywall - ND	Fair - Good	Y

Asbestos-Containing Materials Identified							
HM No.†	Material Description	Material Location	No. of Samples	Approx. Quantity	Asb. Type & Percent	Condition	Friable Y/N
24	AirCell Pipe Insulation	Material observed in attics of Areas 1, 3, 4, 5 and 6. It was also observed in Area 9 and assumed to be throughout Buildings 1 and 2. Bagged insulation was also observed in Areas 9 and 17	3	300 lf.	Chrysotile 70%	Fair-Poor	Y
27	Pipe Fitting Insulation	Material observed in attics of Areas 1, 3, 4, 5 and 6. It was also observed in Area 9 and assumed to be throughout Buildings 1 and 2. Bagged insulation was also observed in Areas 9 and 17	3	60 Fittings	Chrysotile 15% Amosite 15%	Fair-Poor	Y
28	Boiler Insulation	Area 9	3	80 sq. ft.	Chrysotile 20% Amosite 10%	Fair-Poor	Y
30	Silver Coating	Building 3 - Exterior and Debris Present on Ground	3	5,300 sq. ft.	Chrysotile 5%	Poor	Y
34	Roof Patch & Repair Material, Black	Buildings 1 and 2 Roof	2	425 sq. Ft.	Chrysotile 3%	Good	N*

Asbestos-Containing Materials Identified							
HM No.†	Material Description	Material Location	No. of Samples	Approx. Quantity	Asb. Type & Percent	Condition	Friable Y/N
35	Silver Coating on Built-up Roofing	Buildings 1 and 2 Roof	4	8,870 sq. ft.	Silver Coating: Chrysotile 4% Felt: ND Shingle: ND Tar: ND Insulation: ND	Good	Y

† - Homogeneous material number
* - This material may become friable during abatement activities

Results of the survey indicate that asbestos was not detected in the following materials:

Non-Asbestos-Containing Materials			
HM No.†	Material Description	Material Location	No. of Samples
1	Plaster	Throughout Areas 1-15	5
2	Drywall behind Plaster	Throughout Areas 1-15	2
3	Brown Adhesive behind Wallboard	Area 2	2
6	Ceiling Tile, 12” x 12” w/ Holes	Areas 1, 2, 3, 10 and 11	2
7	Reflective Paper behind 12” x 12” Ceiling Tile w/ Holes	Areas 1, 2, 3, 10 and 11	2
8	Fiberglass Insulated Pipe Wrapping (4” OD)	Area 2	3
10	Carpet Glue, Tan	Areas 1, 3, 4, 5, 6, 7, 10, 11 and 12	3
13	2nd-Layer Floor Material, under Carpet	Area 3, on Ramp	2
14/15	Cove Base, 4” Brown (Painted white in some areas) and Brown Adhesive	Area 7	2
16	Ceiling Tile, 1’ x 2’ Smooth	Area 7	2
17	Ceramic Tile & Mortar	Area1 1 and 10	2

Non-Asbestos-Containing Materials			
HM No.†	Material Description	Material Location	No. of Samples
18	Grout from Ceramic Tile	Area1 1 and 10	2
19	Black Adhesive behind Cork Board	Areas 10 and 11	2
20	Black Adhesive behind 12” x 12” Ceiling Tile w/ Holes	Areas 1, 2, 3, 10 and 11	2
21	Batt Insulation Paper Backing	Attic - Throughout Buildings 1 and 2	2
22	Fiberglass Batt Insulation Backing	Throughout Buildings 1 and 2	2
23	Marmoleum Flooring, Brown	Area 1	2
25	Silver Paint	Area 17 - Interior	3
26	Building Felt behind Exterior Siding	Buildings 1 and 2	2
29	Window Putty	Buildings 1 and 2	2
31	Chimney Brick	Building 1 - Roof	2
32	Chimney Mortar	Building 1 - Roof	2
33	Roof Patch & Repair Material, White	Buildings 1 and 2	2

† - Homogeneous material number

Additional bagged/stored asbestos-containing thermal system insulation (TSI), including pipe/fitting insulation was observed in Areas 9 and 18.

Details of the samples collected, including locations of individual samples can be found in Appendix C: Laboratory Results and Chain of Custody

Lead-Containing Paint

The types of components listed in the table below and on the following page indicate the presence of lead at or above the Environmental Protection Agency Renovation, Repair and Painting Rule (EPA RRP) and the U.S. Department of the Housing and Urban Development (HUD) Guidelines action level. The EPA and HUD definition of “positive” LBP is lead equal to or greater than 1.0 mg/cm^2. Additional details including reading number, floor, substrate, side, color and lead content details are located in the XRF Readings Table found in Appendix D.

Identified Components with Lead Equal to or Greater than 1.0 mg/cm^2			
Location	Component	Condition	Result
Bldgs. 1 and 2 - Interior	Window Sill	Intact-Poor	LBP

Identified Components with Lead Equal to or Greater than 1.0 mg/cm^2			
Location	Component	Condition	Result
Bldgs. 1 and 2 - Interior	Window Trim	Intact-Fair	LBP
Bldgs. 1 and 2 - Interior	Window	Intact-Poor	LBP
Bldgs. 1 and 2 - Interior	Baseboard	Intact - Poor	LBP
Bldgs. 1 and 2 - Interior	Door	Intact-Fair	LBP
Bldgs. 1 and 2 - Interior	Door Trim	Intact	LBP
Bldgs. 1 and 2 - Interior	Door Jamb	Intact	LBP
Bldgs. 1 and 2 - Interior	Sink	Intact	Positive
Bldgs. 1 and 2 - Exterior	Window	Intact - Poor	LBP
Bldgs. 1 and 2 - Exterior	Siding	Fair	LBP
Bldgs. 1 and 2 - Exterior	Window Sill	Intact-Fair	LBP
Bldgs. 1 and 2 - Exterior	Ceiling of Corridor	Intact-Fair	LBP
Bldgs. 1 and 2 - Exterior	Door Trim	Fair	LBP
Bldg 3 - Exterior	Roof	Poor	LBP
Bldg 3 - Exterior	Siding/Roofing	Poor	LBP
Bldg 3 - Exterior	Door Trim	Intact	LBP

Readings in the table noted as LBP, are paint films with lead concentrations at or above 1.0 mg/cm^2. Readings in the table noted as Positive, are non-painted surfaces, such as ceramic tile, with lead concentrations at or above 1.0 mg/cm^2

The table is not intended to provide an exhaustive list of all LBP on the subject property. Readings of representative painted surfaces throughout the interior and exterior of the structure(s) were collected in order to provide the property owner a general indication of the distribution of lead for renovation or demolition purposes. Not all painted components were tested as part of this LCP inspection. This table lists only those unique testing combinations (building, component and substrate) that were determined by XRF to contain lead equal to or greater than 1.0 mg/cm^2. If one testing combination in a building (i.e. wood door jambs) is determined to be LBP, then all other equivalent components in that building should also be assumed to be LBP.

A total of two stained glass windows (approximately 2.5’ x 3’) were also observed in Areas 4 and 5. These types of windows often contain lead in the channels that join the glass together or “came”, and the solder.

Universal Waste, Mercury and PCBs
Results of the inspection indicate that items suspect for containing mercury and PCBs, or that are classified as universal waste, such as fluorescent tubes and ballasts were present in the structure s included as part of this scope of work. The following is a list of items observed:

- 4' Fluorescent Tubes: ~19
- 8' Fluorescent Tubes: ~18
- Compact Fluorescent Bulbs: ~3
- Ballasts: ~20
- Thermostats: ~3

Additional stored and packaged fluorescent tubes and ballasts were observed in Building 3/Area 18.

Mold
Based on the visual assessment, mold growth and staining is present throughout all of the buildings on site. Additionally, the non-viable air sample results identified an elevated presence of airborne fungal spore concentrations in several areas.

Results of Microbial Air Sampling
Two outdoor air samples were collected from the south and north exteriors of the buildings to serve as a control group for comparison. Eight indoor air samples were collected in representative areas throughout the buildings.

The fungal spore concentrations identified by the samples collected were elevated in several areas, when compared to the amount identified outdoors. The microbial air sampling results are only representative of conditions that were present at the time of this assessment. The details of the microbial air sampling are provided in the table below and on the following page:

Microbial Air Sampling Results

Sample ID	Sample Description	Sample Location	Confirming Results*
22-1340-080122-OA1	Air Sample - Non-Viable (Control)	Outdoors - South Side of the Property	*Control*
22-1340-080122-IA1	Air Sample - Non-Viable	Indoors - Area 1	-
22-1340-080122-IA2	Air Sample - Non-Viable	Indoors - Area 3	*Penicillium/Aspergillus*
22-1340-080122-IA3	Air Sample - Non-Viable	Indoors - Area 7	*Penicillium/Aspergillus*
22-1340-080122-IA4	Air Sample - Non-Viable	Indoors - Area 8	*Penicillium/Aspergillus*
22-1340-080122-IA5	Air Sample - Non-Viable	Indoors - Area 10	*Penicillium/Aspergillus*
22-1340-080122-IA6	Air Sample - Non-Viable	Indoors - Area 11	*Penicillium/Aspergillus* *Cladosporium*

Sample ID	Sample Description	Sample Location	Confirming Results*
22-1340-080122-IA7	Air Sample - Non-Viable	Indoors - Area 16	-
22-1340-080122-IA8	Air Sample - Non-Viable	Indoors - Area 17	-
22-1340-080122-OA2	Air Sample - Non-Viable (Control)	Outdoors - North Side of the Property	*Control*

* Results shown in the table only reflect data which indicates elevated fungal spore concentrations. For a complete list of the specific fungal types that were present, see laboratory analytical report in Appendix C.

Results of Visual Inspection

Area 1:
Staining was observed on the ceiling tile. Visible mold growth (VMG) was observed on the North door and at the windows/shades.

Area 2:
Staining was observed on the ceiling tile, around windows and the base of the walls. VMG was observed on the interior of the wall, on the back wallboard.

Area 3:
Staining was observed on the ceiling tile. VMG was observed on the East windows.

Area 4:
Staining was observed on the carpet. VMG was observed on the windows.

Area 5:
Staining was observed on the carpet. VMG was observed on the windows.

Area 6:
Staining was observed on the ceiling tile. VMG was observed on the East windows.

Area 7:
Staining was observed on the ceiling tile. VMG was observed on the East windows and West door and windows.

Area 8:
VMG was observed on the West windows.

Area 10:
VMG was observed on the West windows and door on the East side of the room.

Area 11:
Staining was observed on the ceiling tile and carpet on the West side of the room. VMG was observed on the West windows and window shades.

Area 15:

Staining and degradation was observed North and West walls and windows. A portion of the ceiling had been removed, which appeared to be due to water intrusion. VMG was observed on the bathroom stalls.

Area 16:
Staining and VMG was observed on ceiling tiles throughout this area.

Area 17:
Staining was observed throughout the walls/ceiling. Degradation of the wood around the base of the walls were observed. VMG was observed in the NW corner of the building.

On the day of the assessment, all recorded interior temperature readings were within the American Society of Heating Refrigeration and Air-Conditioning Engineers (ASHRAE) recommended range of 67-82 °F. All recorded relative humidity readings were below the recommended upper limit of 65% published by ASHRAE Standard 62.1-2013, *Ventilation for Acceptable Indoor Air Quality*.

Temperature and relative humidity measurements were collected in each area and all were within industry acceptable ranges at the time of this assessment. Overall, signs of water intrusions from the roofs, building envelope and potential window failures were observed as the likely source. Lack of ongoing building conditioning appears to have also contributed to mold growth on items such as window shades.

Recommended Response Actions

Asbestos

Asbestos-Containing Materials (ACM)

Any building material which contains asbestos in an amount greater than 1% is considered ACM by the the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), the State of Oregon Department of Environmental Quality (DEQ) and the Oregon Occupational Safety and Health Division (OR-OSHA).

Laboratory results of the survey have determined that multiple materials throughout the structures included in this scope of work are considered ACMs.

- The floor tile, roofing materials on buildings 1 and 2, and light fixtures were found to be in good condition.
- Small holes were observed in several walls.
- Damaged TSI was observed in the boiler room.
- Bagged/stored TSI (pipe/fitting/boiler insulation) was observed in Areas 9 and 18
- Silver coating is in poor condition on the exterior of building 3, with debris present on ground around the building.

All identified and presumed ACM must be removed by licensed asbestos abatement contractor, or other certified individual, prior to impact if they are to be disturbed during renovation or demolition activities.

Any damaged/stored ACM or materials likely to be disturbed during renovation or demolition activities, other than by incidental contact with no generation of debris related to other construction activities, should be abated by a licensed asbestos abatement contractor. Any activities conducted where the primary object of the activity is the removal of ACM must be conducted by a licensed asbestos abatement contractor or other properly trained individuals.

The National Emissions Standards for Hazardous Air Pollutants (NESHAPs) requires that all Regulated Asbestos-Containing Materials (RACMs) be removed from a building prior to demolition.

Asbestos-Containing Materials - 1% Asbestos or Less
Any building material which contains asbestos in an amount of 1% or less is considered asbestos-containing by OSHA, and by OR-OSHA. Although these materials are not considered ACMs, workers must be protected from exposure to asbestos, regardless of the percentage.

No materials sampled were found to contain 1% or less asbestos.

Lead-Containing Paint

Results of the inspection have determined that LBP was identified in multiple areas throughout the interior and exterior of the structures, that is equal to or above the concentration of 1.0 mg/cm^2. LCP below the threshold concentration of 1.0 mg/cm^2 was identified on additional painted components. One non-paint material (sink) was identified with a lead concentration equal to or above the threshold of 1.0 mg/cm^2.

LBP films could create lead dust or lead contaminated soil hazards if the paint is turned to dust by abrasion, scraping or sanding. If conditions of intact paint surfaces become destabilized, these conditions will need to be addressed. All paint films in poor condition must be stabilized if the structure is to be demolished. If any construction or modernization work is done on the premises, this report should be given to the contractor(s). OSHA/OR-OSHA have requirements for employees working with or around LCP.

Contractors and other personnel who may impact these materials should be informed of the results of this inspection. LBP is a common cause of lead poisoning in children and represents a threat to the health and welfare of the occupants. Where economically feasible, it is our recommendation that all components that tested positive, and any similar untested components, be considered lead-laden, and lead-safe procedures are incorporated into any overall renovation and maintenance strategy in order to reduce the potential for contamination and/or exposure. Safe methods include: containing any work area to prevent dispersal of lead dust and chips, wet sanding and scraping at a minimum; collecting all paint chips and debris and, properly disposing of them.

Details of the locations and lead content for all of the readings can be found in Appendix D: XRF Readings Table.

If additional painted surfaces are discovered that were not tested as part of this inspection, or that are expected to be impacted as part of any renovation or demolition work, they should be presumed LBP until tested to show otherwise.

A risk assessment has not been conducted to evaluate potential lead hazards present at the building and surrounding soil as part of this scope of work.

Universal Waste, Mercury and PCBs
Results of the inspection indicate that items suspect for containing mercury and PCBs, or that are classified as universal waste, such as fluorescent tubes, ballasts, and thermostats were present in the structures included as part of this scope of work. These items must be disposed of properly.

Mold
Based on the findings of this assessment, G2 recommends that the following corrective actions are performed, using qualified industry professionals as appropriate:

- The identified areas of water-related damage were likely caused by roof leaks, water intrusion through the exterior building envelope and lack of conditioning in the buildings. G2 recommends that the roof and exterior walls/building envelope be inspected for potential leaks and addressed as necessary by a qualified industry professional. If no leaks can be identified from the exterior, consider removing a portion of the interior walls and/or insulation covering the underside of the roof deck to determine the pathway of the water intrusion issue. All work should be completed by qualified industry professionals.
- G2 recommends that future water intrusions be promptly responded to by qualified industry professionals, and that water extraction services be performed in accordance with industry best practices as detailed in the Institute of Inspection, Cleaning and Restoration Certification (IICRC) S500 Standard and Reference Guide for Professional Water Damage Restoration.
- G2 recommends that indoor environmental conditions be controlled, if feasible, in order to prevent elevated indoor relative humidity levels. Relative humidity is the ratio of vapor pressure in air compared to the vapor pressure of that air if it were completely saturated at the same temperature, expressed as a percentage. For the purpose of managing moisture in buildings, G2 recommends adhering to industry best practices of implementing effective condensation control measures to keep the dew point below the temperature of indoor surfaces. The dew point can be lowered by installing and maintaining proper HVAC systems to control indoor humidity. It's recommended that the dew point be keep to below 55°F (i.e. maximum 50% relative humidity when indoor temperature is 75°F). Properly designed and installed HVAC systems remove the large and nearly continuous humidity load from incoming ventilation and makeup air, and smaller humidity loads from indoor sources may be removed by exhaust systems, increased natural ventilation, and dehumidification systems when the dew point rises above 55°F.
- An indoor environment contaminated with the presence of actual mold growth equal to or greater than 10 square feet should be remediated within a containment. The type of containment should be guided by how much building material and/or contents are impacted. If mold remediation is performed, G2 recommends it be performed by qualified, industry professionals who adhere to industry best practices and the guidance documents listed in the attached resources. All building materials exhibiting mold growth should be removed to 18" beyond visible staining and/or mold growth. Remediation should be conducted in a manner that limits the amount of mold that is aerosolized and limits aerosolized materials in the workspace. After completion of remediation activities, a post remediation verification inspection and mold air clearance sampling is recommended to confirm the absence of elevated mold spore concentrations within the contained work area

prior to any removal of engineering controls.

Prior to these materials being impacted, asbestos content of the materials being impacted must also be considered to ensure federal, state and local regulatory agency requirements are being met.

Methodology

Asbestos

The field work was conducted using industry best practices. Samples of representative accessible suspect materials within the scope of work were collected during the course of the inspection. Materials were sampled according to homogeneous groupings using the Asbestos Hazard Emergency Response Act (AHERA) sampling guidelines.

Samples were collected in such a manner as to minimize release of the material into the surroundings. Sample number, material description, sample location and material location were recorded at the time of sampling. Each sample was placed in a sample container labeled with a unique sample number and submitted to Southeast Environmental Microbiology Laboratories, an NVLAP-accredited laboratory, for analysis under chain of custody documentation. Samples were analyzed in accordance with EPA Method 600/R-93-116, using PLM with dispersion staining and using visual area estimation to determine percent asbestos content. This method allows for the identification of the primary types of asbestos used in building materials. The lower limit of detection for this method is one percent. Samples containing one percent or less asbestos by PLM with visual area estimation are reported as “Trace”. Limited destructive sampling techniques were utilized during this survey to gain access to potentially hidden materials. Additional suspect materials may be present in other interstitial spaces that were inaccessible at the time of the site visit.

Lead-Containing Paint

All testing of suspect LCP was conducted utilizing a Niton X-ray fluorescence LBP analyzer, Model XLp-300A bearing Serial #25643. The source type, cadmium-109 (Cd^{109}), was sourced on April 29, 2020. G2 followed the Performance Characteristics Sheets (PCS) for the specific X-Ray fluorescence instrument used during the LBP evaluation of the property. The XRF PCS is presented in Appendix E. The instrument was calibrated to the manufacturer's specifications and was also periodically verified against the National Institute of Standards and Testing (NIST) Standard Reference Material (SRM) 2579 lead film (1.0 mg/cm^2).

The calibration of the instrument is conducted in accordance with the PCS for this instrument. These instruments are calibrated using a calibration standard block of known lead content. If for any reason the instruments do not maintain a consistent calibration reading within the manufacturer’s standards for performance on the calibration block supplied by the manufacturer, manufacturer’s recommendations are used to bring the instrument into calibration. If the instrument cannot be brought back into calibration, it is taken off the site and sent back to the manufacturer for repair and/or re-calibration.

Wall “A” in each room is the wall where the front entrance door opening is located (or aligned with street). Going clockwise and facing Wall “A”, Wall “B” will always be to your right, Wall “C” directly to the rear and Wall “D” to the left. Doors, windows and closets may be designated as left, center or right depending on their location on the wall. Doors, windows, and closets are designated as left, center or right depending on their location on the wall.

All individuals who performed this XRF testing and visual assessment have EPA and/or state licenses as Lead Inspector/Risk Assessors and have been trained in the use, calibration and maintenance of the XRF, along with the principles of radiation safety, in accordance with the work practices of 40 CFR 745, section 227, for states and Native American tribal groups.

PCBs and Mercury-Containing Materials

As part of this survey, a visual inspection for PCBs and mercury-containing components and universal waste was conducted. Items known to be suspect for PCBs, if identified, were quantified and catalogued.

Mold

Visual Assessment

G2’s assessment included a thorough visual inspection of the subject building site with photo documentation. During the inspection all suspect areas, determined by building history and the inspector’s professional judgement, are examined and documented. A Surveymaster Protimeter dual-function moisture meter was used to determine moisture content of building materials. This is a direct read device which was used in Search mode to obtain relative moisture measurements of materials up to 3/4” beneath the surface. The moisture readings of these materials are compared to like building materials in non-affected areas as well as to industry standard moisture content standards. A FLIR One infrared camera is used to view a visual spectrum of thermal energy. This direct read device detects temperatures from -20 °F to 120 °F and has a thermal sensitivity of 100 mK.

Microbial Air Sampling

Air-O-Cell cassettes were used for particulate air sampling for bioaerosols. The cassettes are designed for rapid collection and analysis of a wide range of airborne bioaerosols including fungal spores. The sample pump was calibrated at a flow rate of 15 liters per minute and samples were collected for 5 minutes for a total sample volume of 75 liters. Samples were sent to an accredited laboratory and analyzed by light microscopy. Sample results are given in spores per meter cubed (S/m^3), and are adjusted for outdoor control samples.

All microbial samples collected were individually labeled and submitted for analysis to EMLab P&K, a participating laboratory in the American Industrial Hygiene Association (AIHA) Environmental Microbiology Laboratory Accreditation Program (EMLAP).

Limitations

G2 has performed this inspection in accordance with best industry methods and practices of the profession, and consistent with the level of care and skill ordinarily exercised by reputable environmental consultants under similar circumstances and conditions. The observations contained within this assessment are based upon site conditions readily accessible at the time of the site inspection. No other representation, guarantee or warranty, express or implied, is included or intended in this hazardous materials survey report. If any untested suspect materials are encountered during demolition activities, they should be assumed to be ACM and not disturbed, unless sampling and analysis of the materials proves otherwise.

The LBP portion of the inspection was planned, developed, and implemented based on G2's professional experience in performing LBP inspections. G2 performed a limited inspection for lead-containing paint of the predominant painted surfaces in order to provide a general indication of the distribution of lead for demolition purposes. G2 utilized state-of-the-art practices and techniques in accordance with regulatory standards while performing this inspection. A copy of personnel and company certifications has been provided in Appendix G. G2's evaluation of the painted surfaces identified during this inspection is based on conditions observed at the time of the inspection. G2 cannot be responsible for changing conditions that may alter the relative exposure risk for future changes in accepted methodology.

The owner is responsible to convey information regarding identified lead content to inhabitants, contractors, etc. expected to potentially be exposed. G2 recommends that both the contractor and the owner keep the records for three years.

This report consists of a visual survey, and XRF analysis of the readily accessible areas of this building and tested components. The presence or absence of LBP or LBP hazards applies only to the tested or assessed surfaces on the date(s) of the field visit and it should be understood that conditions may change due to deterioration or maintenance. The results and material conditions noted within this report were accurate at the time of the evaluation and in no way reflect the conditions at the property after the date of the evaluation.

The current scientific understanding of microbial contamination issues in buildings does not allow for an absolute determination between safe and unsafe levels of fungi in a building. Some background levels of fungi are always present both indoors and outdoors and these levels change with time, season, and building conditions. Because of the vast number of potential fungi present in the environment, there are no numeric standards for comparison, and surface and air testing is useful only as a means to determine if extremely high levels of fungal spores are present that would warrant further evaluation.

Certain persons that may be at an elevated risk for infection or illness, above the general population include: infants, the elderly, the chronically ill, the severely immuno-compromised, persons recovering from serious burns or major surgery, and persons being treated with anti-rejection drugs.

The fungal assessment conducted by G2 was intended to provide a reasonable assurance that significant hidden fungi contamination would be identified. However, there is always the potential for discovering additional hidden fungal growth in buildings in areas where water damage or other conditions leading to fungal growth was not expected or could not be inspected, such as inside wall cavities. Mechanical equipment associated with the subject property, such as HVAC equipment, was not disassembled during the investigation.

G2 conducted this fungal investigation following industry best practices and the guidance documents listed in Appendix F. The protocols used are consistent with those exercised by other reputable consultants and based on current industry standards on projects of similar scope. No warranty, representation, or guarantee, express or implied, is included or intended in this fungal investigation report.

As with all environmental investigations, this inspection is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Respectfully Submitted and Reviewed By:

Sean Friend
Sr. Project Specialist
G2 Consultants

Noal Kraft
Sr. Vice President of Operations
G2 Consultants

Appendix A:

Drawings

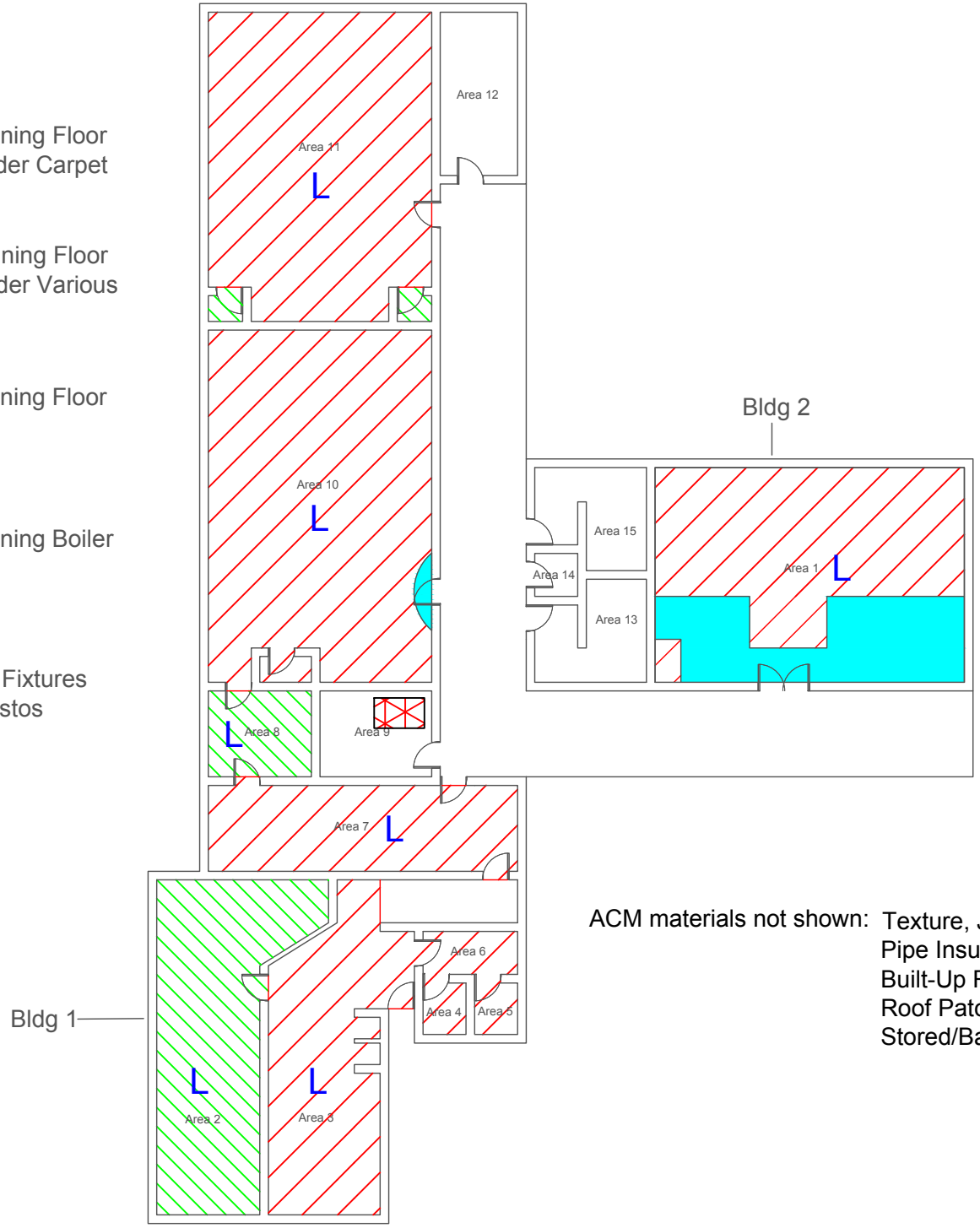
Asbestos-Containing Floor Tile & Mastic under Carpet

Asbestos-Containing Floor Tile & Mastic under Various Floor Material

Asbestos-Containing Floor Tile & Mastic

Asbestos-Containing Boiler Insulation

L Areas with Light Fixtures Containing Asbestos



ACM materials not shown:
Texture, Joint Compound on Drywall
Pipe Insulation & Fittings
Built-Up Roofing
Roof Patch & Repair Materials
Stored/Bagged Asbestos TSI

Notes:

This is a design drawing and is the property of G2 Consultants. It is not intended to replace required architectural or engineering plans. This drawing is not to be reused or reproduced without written permission from G2 Consultants.

Client: Hahn and Associates, Inc.
Project: Commercial Property
Location: 635-655 Manzanita Avenue Manzanita, OR 97130

G2 Project #: 22-1340

Building: 1 & 2
Floor: First
Dwg Type: ACM Material Locations

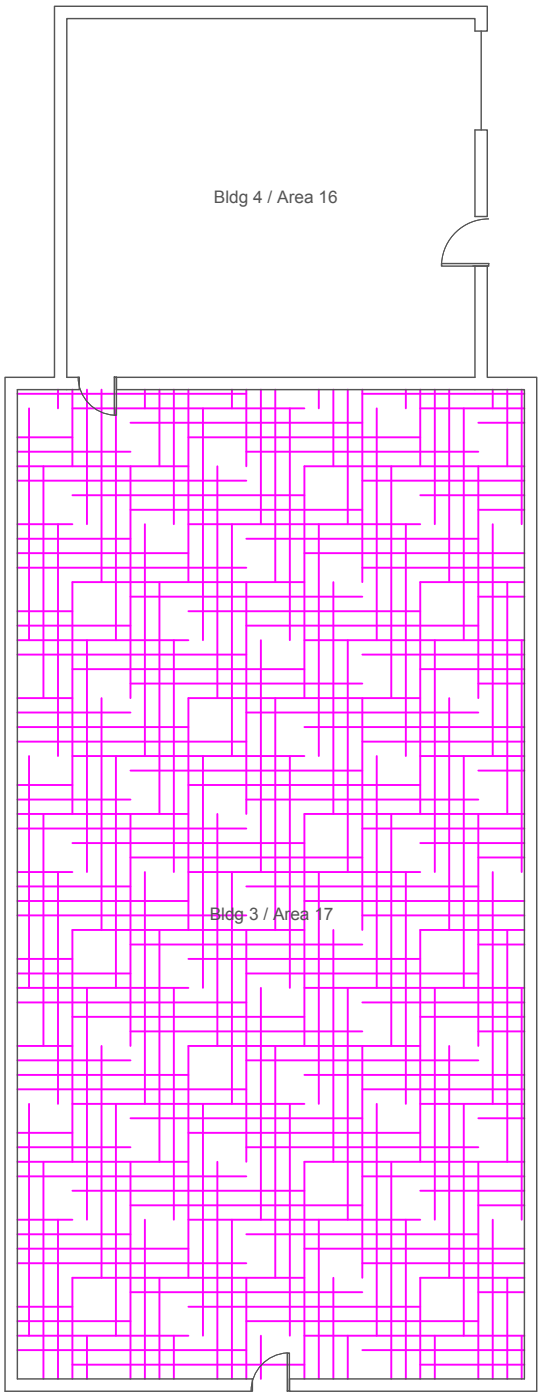
consultants
16869 SW 65th Avenue #15
Lake Oswego, OR 97035
888.998.g2ci
888.887.5422 fax
www.g2ci.com

Report North

Date: 8-24-22

Drawn By: SMF

Page #: 1/6



Silver/Black Coating on Exterior of Building

ACM materials not shown:
Stored/Bagged Asbestos TSI

Notes:

Client: Hahn and Associates, Inc.
Project: Commercial Property
Location: 635-655 Manzanita Avenue
Manzanita, OR 97130

G2 Project #: 22-1340

Building: 3 & 4
Floor: First
Dwg Type: ACM Material Locations

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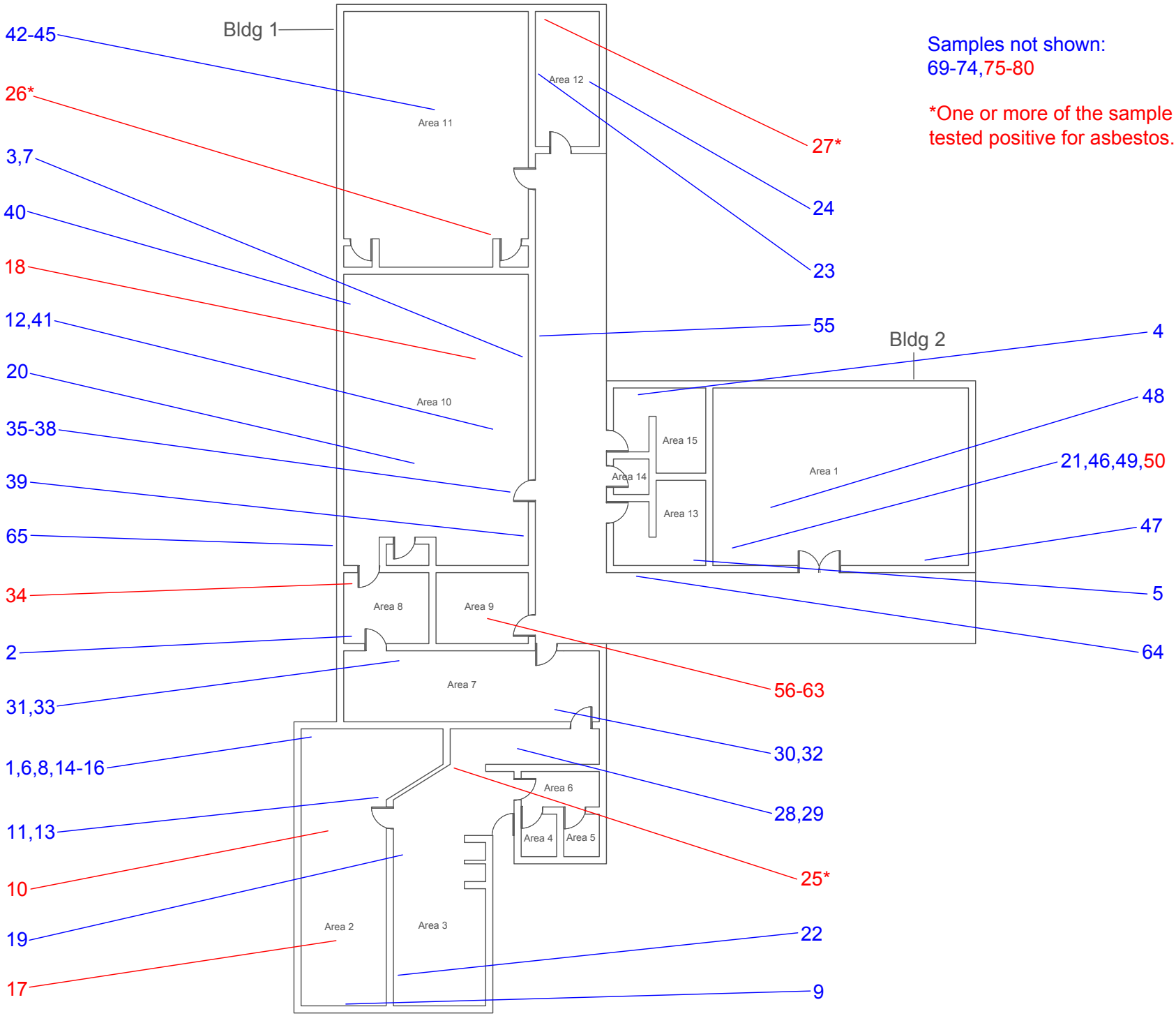
www.g2ci.com

Report North

Date: 8-24-22

Drawn By: SMF



Samples not shown:
69-74,75-80

*One or more of the sample set tested positive for asbestos.

Notes:

Client: Hahn and Associates, Inc.
Project: Commercial Property
Location: 635-655 Manzanita Avenue
Manzanita, OR 97130

G2 Project #: 22-1340

Building: 1 & 2
Floor: First
Dwg Type: Sample Locations

consultants
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Report North

Date: 8-24-22

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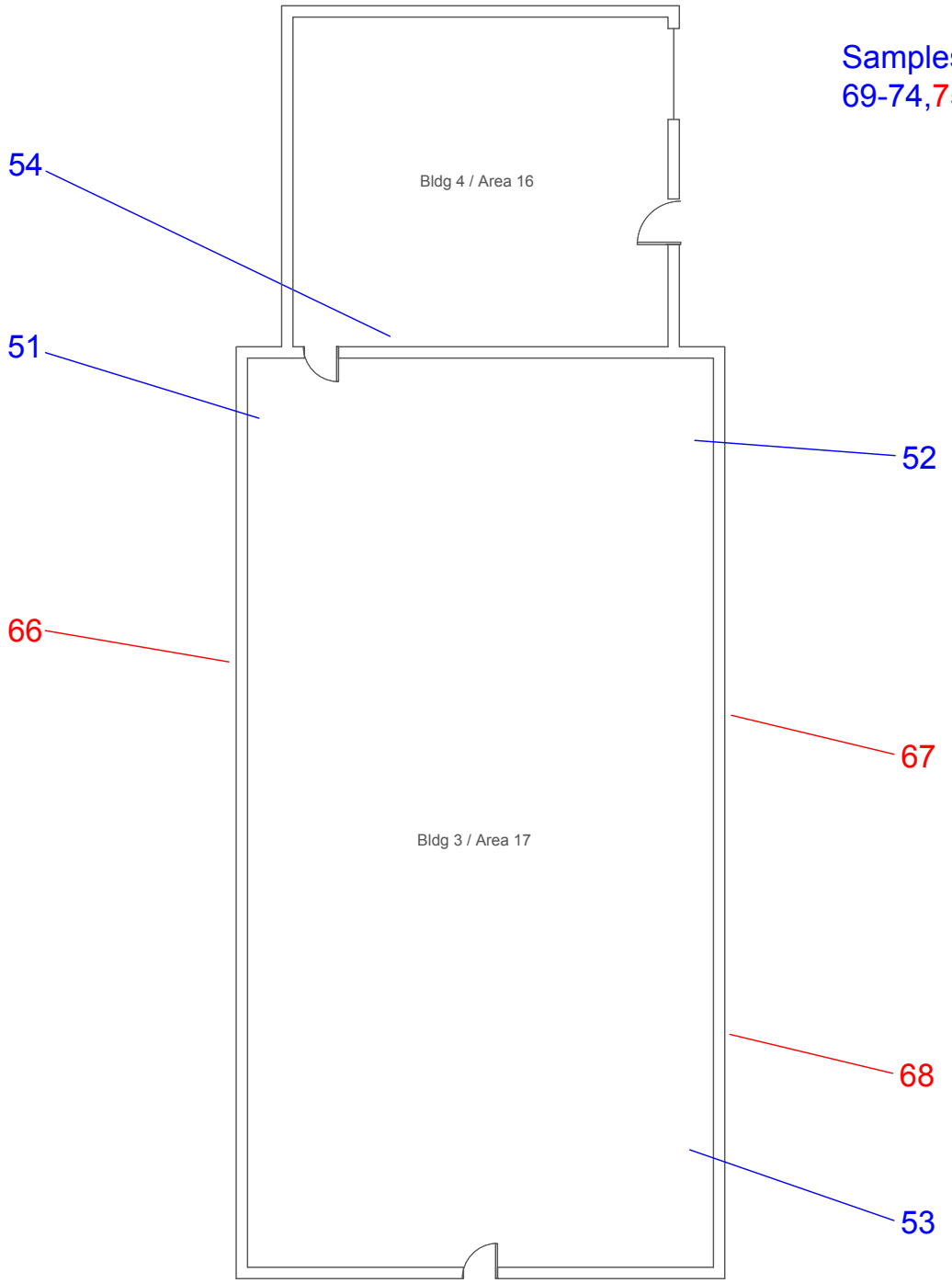
Page #: 3/6



Notes:

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Project: Commercial Property
Location: 635-655 Manzanita Avenue
Manzanita, OR 97130

G2 Project #: 22-1340

Building: 3 & 4
Floor: First
Dwg Type: Sample Locations

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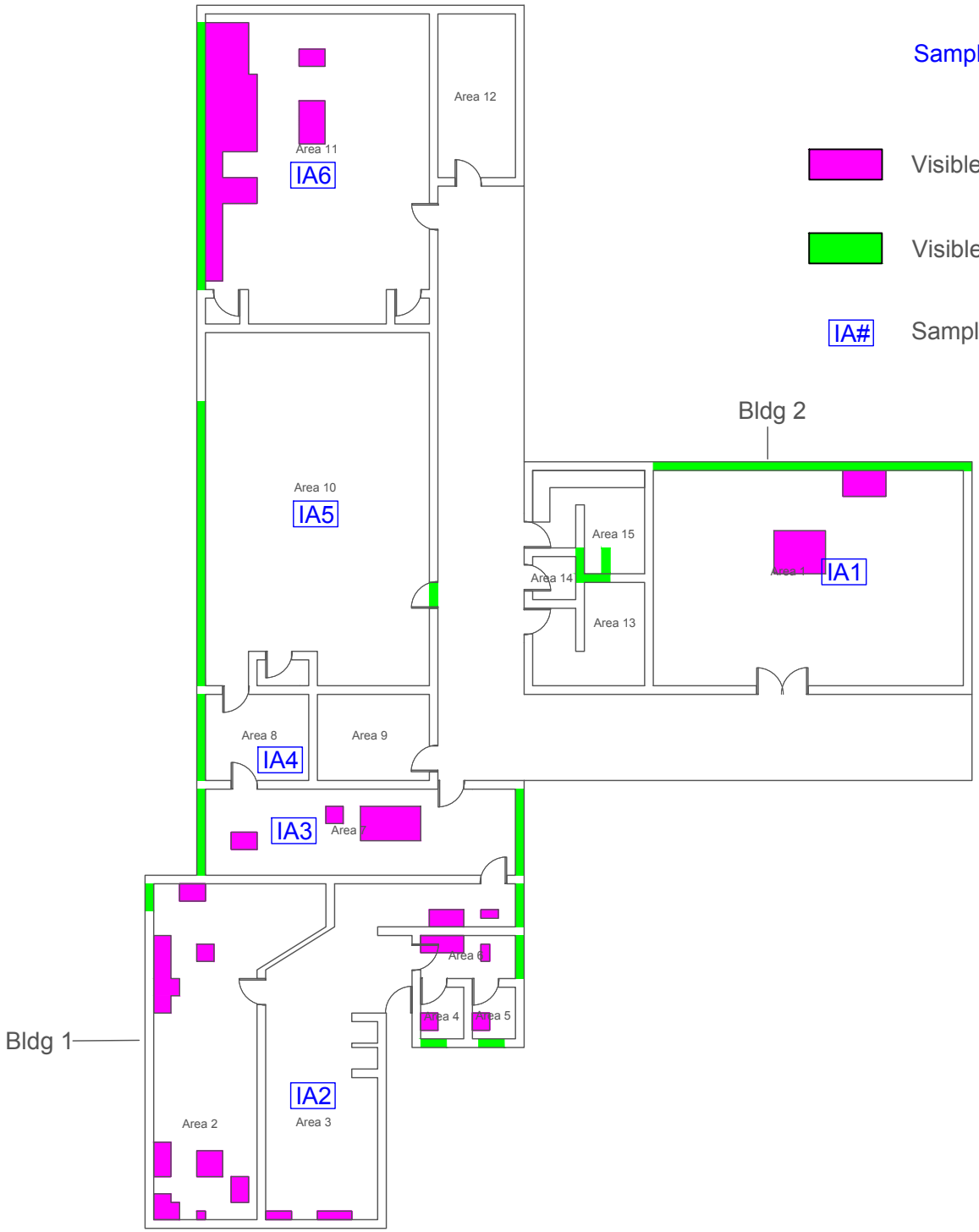
Report North

Date: 8-24-22

Drawn By: SMF

Page #: **4/6**



Notes:

Client: Hahn and Associates, Inc.
Project: Commercial Property
Location: 635-655 Manzanita Avenue
Manzanita, OR 97130

G2 Project #: 22-1340

Building: 1 & 2
Floor: First
Dwg Type: Mold/Staining/Sample Locations

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Report North

Date: 8-24-22

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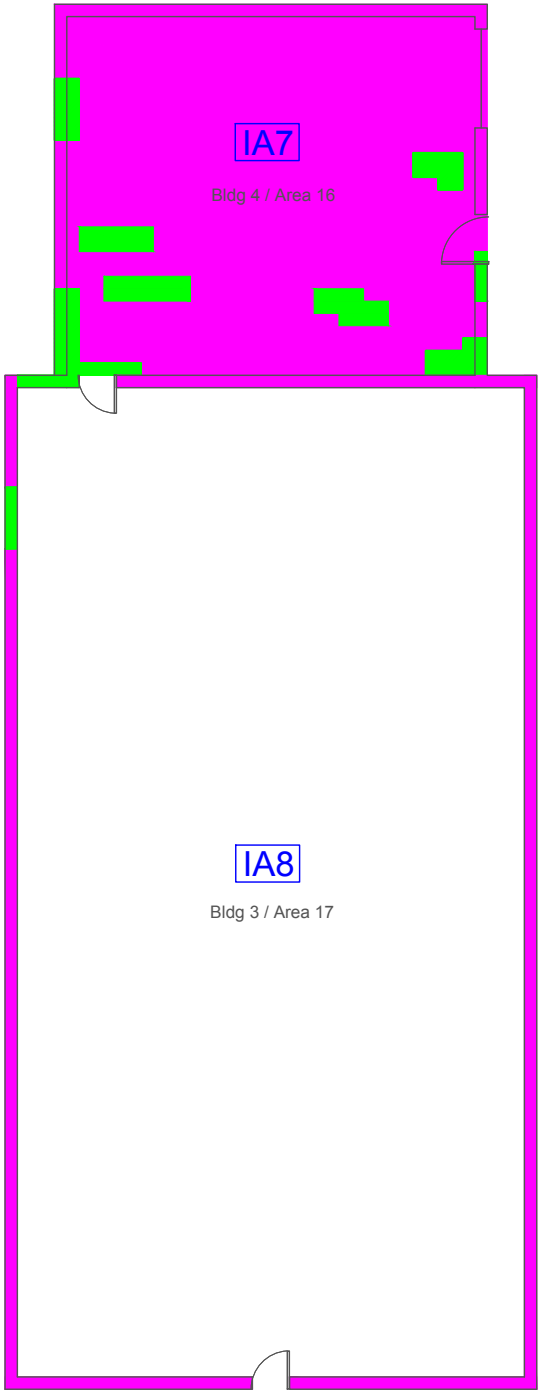
Visible Water Staining

Visible Microbial Growth

IA# Sample Location



Samples not shown: OA1,OA2

Notes:

Client: Hahn and Associates, Inc.
Project: Commercial Property
Location: 635-655 Manzanita Avenue Manzanita, OR 97130

G2 Project #: 22-1340

Building: 3 & 4
Floor: First
Dwg Type: Mold/Staining/Sample Locations

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Appendix B:

Photo Log

Exterior of Building 3: SW Side

Exterior of the Site: South Side

Exterior of Building 3: Asbestos-containing silver coating

Exterior of Buildings 2, 3 and 4: South Side

Boiler Room: Asbestos-containing boiler insulation, pipe insulation and fitting insulation

Boiler Room: Example of damaged asbestos-containing pipe insulation

Attic Above Areas 3 and 6: Asbestos-containing pipe insulation and fittings

Example of Light Fixture: Asbestos-containing insulation

Example of Mold Growth: Mold growth observed on wallboard, on the interior of the wall cavity

Example of Mold Growth: Mold growth observed on window shades

Example of Mold Growth: Mold growth observed on interior of door

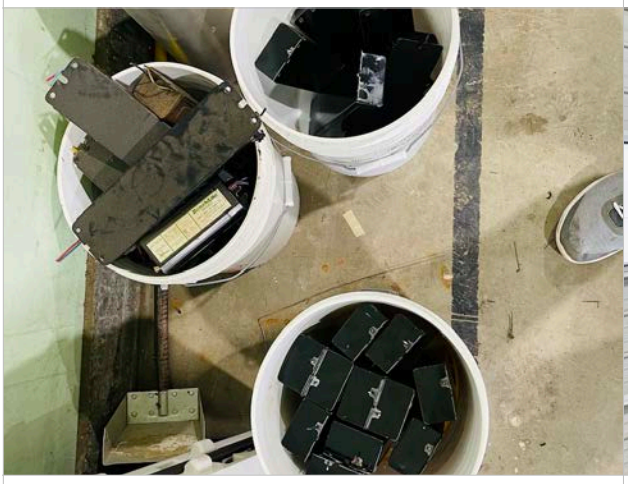
Example of Mold Growth: Mold growth observed on interior wall

Example of Mold Growth: Mold growth observed on window

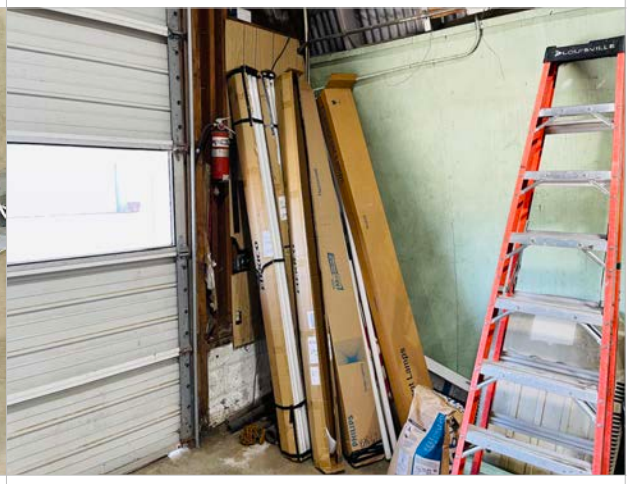
Example of Staining/Mold Growth: Staining and mold growth observed on ceiling

Example of Staining: Staining observed on ceiling

Building 3: Stored/bagged presumed asbestos-containing materials



Building 3: Stored/packaged light ballasts presumed to contain PCBs



Building 3: Stored/packaged fluorescent light tubes

Appendix C:

Laboratory Analysis and Chain of Custody

SEEML Reference Number:
220804008-PLM-R
Date Issued: 08/24/22

Southeast Environmental Microbiology Laboratories
102 Edinburgh Court
Greenville, SC. 29607
Phone: (864) 233-3770
Fax: (864) 233-6589

Asbestos Analytical Report By: Polarized Light Microscopy

This report has been prepared for **G2 Consultants** the information and data has been checked for thoroughness and accuracy. The results reported apply only to the materials as received. The documents(s) contained herein are confidential and privileged information intended for the exclusive use of the individual or entity named above. This report shall not be reproduced except in full without SEEML's approval.

Client Project Name: Hahn and Associates, Inc., 22-1340

The Following report was prepared using this test method(s) contained within this document.

- ☒ PLM Bulk Asbestos Fiber Analysis: EPA 600/R-93/116
- ☐ PLM 400 Point Count (<0.25%) EPA 600/R-93/116
- ☐ PLM 1000 Point Count (<0.1%) EPA 600/R-93/116
- ☐ PLM Carb 435 Level A Reporting Limit (<0.25%)
- ☐ PLM Carb 435 Level B (Reporting limit <0.1%)
- ☐ PLM by EPA/600/R-93/116 with Milling Prep 400 Point Count
- ☐ PLM Vermiculite Initial Screening EPA 600R-93/116
- ☐ PLM Cincinnati Method 600/R-04/004 (Amphibole Only)
- ☐ PLM Vermiculite Method SOF-V 198.8 (Step 1 Chrysotile & Prep)
- ☐ PLM Vermiculite Method SOF-V 198.8 (Step 2 (Amphibole)

Thank you for choosing SEEML Labs. We strive to provide superior quality testing, analytical data and customer service. SEEML is accredited through the National Institute of Standards and Technology (NIST) National Voluntary Accreditation Program (NVLAP) for bulk asbestos analysis NVLAP # 201031-0 and licensed by the Texas Department of State Health Services (License Number: 300474). This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the US government.

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Phone: 864-233-3770, Fax: 864-233-6589 , www.seeml.com
NVLAP Lab ID:201031-0 Texas Lic: 300474 LELAP ID: 224475

PLM Asbestos Bulk Sample Summary

Revision 1

Client:	G2 Consultants 16869 SW 65th Ave #15 Lake Oswego, OR 97035	Date Sampled:	08/02/22
		Date Received:	08/04/22
		Date Analyzed:	08/09/22
		Date Reported:	08/09/22
		Date Revised:	08/24/22
Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
071A / 22-1340-1	**None Detected**	2% Cellulose	98% Carbon/Quartz	Plaster/Area 2
072A / 22-1340-2	**None Detected**	2% Cellulose	98% Carbon/Quartz	Plaster/Area 8
073A / 22-1340-3	**None Detected**	2% Cellulose	98% Carbon/Quartz	Plaster/Area 10
074A / 22-1340-4	**None Detected**	2% Cellulose	98% Carbon/Quartz	Plaster/Area 15
075A / 22-1340-5	**None Detected**	2% Cellulose	98% Carbon/Quartz	Plaster/Area 13
076A / 22-1340-6	**None Detected**	10% Cellulose	90% Gypsum	Drywall/Area 2
077A / 22-1340-7	**None Detected**	10% Cellulose	90% Gypsum	Drywall/Area 10
078A / 22-1340-8	**None Detected**	None Detected	100% Organic Matrix	Brown Mastic/Area 2
079A / 22-1340-9	**None Detected**	None Detected	100% Organic Matrix	Brown Mastic/Area 3

Approved By: Vrishni Sandoval

Disclaimer:
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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. NAD means no asbestos fibers were detected. When detected the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

Guidelines for Interpretation:
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PLM Asbestos Bulk Sample Summary

Revision 1

Client:	G2 Consultants 16869 SW 65th Ave #15 Lake Oswego, OR 97035	Date Sampled:	08/02/22
		Date Received:	08/04/22
		Date Analyzed:	08/09/22
		Date Reported:	08/09/22
		Date Revised:	08/24/22
Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
080A / 22-1340-10	**6% Chrysotile**	None Detected	94% Organic Matrix	Floor Tile/Area 2
080B / 22-1340-10	**None Detected**	None Detected	100% Organic Matrix	Black Mastic/Area 2
081A / 22-1340-34	**7% Chrysotile**	None Detected	93% Organic Matrix	Floor Tile/Area 8
081B / 22-1340-34	**2% Chrysotile**	None Detected	98% Organic Matrix	Black Mastic/Area 8
082A / 22-1340-11	**None Detected**	90% Cellulose	10% Binder/Filler	Ceiling Tile/Area 2
083A / 22-1340-12	**None Detected**	90% Cellulose	10% Binder/Filler	Ceiling Tile/Area 10
084A / 22-1340-13	**None Detected**	50% Cellulose	50% Organic Matrix	Paper/Area 2
085A / 22-1340-41	**None Detected**	50% Cellulose	50% Organic Matrix	Paper/Area 10
086A / 22-1340-14	**None Detected**	50% Cellulose 20% Fiberglass	30% Organic Matrix	Pipe Wrap/Area 2

Approved By: Vrishni Sandoval

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NVLAP Lab ID:201031-0 Texas Lic: 300474 LELAP ID: 224475

PLM Asbestos Bulk Sample Summary

Revision 1

Client:	G2 Consultants 16869 SW 65th Ave #15 Lake Oswego, OR 97035	Date Sampled:	08/02/22
		Date Received:	08/04/22
		Date Analyzed:	08/09/22
		Date Reported:	08/09/22
		Date Revised:	08/24/22
Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
087A / 22-1340-15	**None Detected**	50% Cellulose 20% Fiberglass	30% Organic Matrix	Pipe Wrap/Area 2
088A / 22-1340-16	**None Detected**	50% Cellulose 20% Fiberglass	30% Organic Matrix	Pipe Wrap/Area 3
089A / 22-1340-17	**90% Chrysotile**	None Detected	10% Organic Matrix	Insulation/Area 2
090A / 22-1340-18	**90% Chrysotile**	None Detected	10% Organic Matrix	Insulation/Area 10
091A / 22-1340-19	**None Detected**	None Detected	100% Organic Matrix	Tan Mastic/Area 3
092A / 22-1340-20	**None Detected**	None Detected	100% Organic Matrix	Tan Mastic/Area 10
093A / 22-1340-21	**None Detected**	None Detected	100% Organic Matrix	Tan Mastic/Area 1
094A / 22-1340-22	**None Detected**	None Detected	100% Binder/Filler	Wall Texture/Area 3
095A / 22-1340-23	**None Detected**	None Detected	100% Binder/Filler	Wall Texture/Area 12

Approved By: Vrishni Sandoval

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PLM Asbestos Bulk Sample Summary

Revision 1

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		Date Analyzed:	08/09/22
		Date Reported:	08/09/22
		Date Revised:	08/24/22
Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
096A / 22-1340-24	**None Detected**	None Detected	100% Binder/Filler	Wall Texture/Area 12
097A / 22-1340-25	**None Detected**	None Detected	100% Binder/Filler	Texture/Area 3
097B / 22-1340-25	**None Detected**	None Detected	100% Binder/Filler	Joint Compound/Area 3
097C / 22-1340-25	**None Detected**	10% Cellulose	90% Gypsum	Drywall/Area 3
098A / 22-1340-26	**2% Chrysotile**	None Detected	98% Binder/Filler	Texture/Area 11
098B / 22-1340-26	**3% Chrysotile**	None Detected	97% Binder/Filler	Joint Compound/Area 11
098C / 22-1340-26	**None Detected**	10% Cellulose	90% Gypsum	Drywall/Area 11
098D / 22-1340-26	**<1% Chrysotile**	5% Cellulose	>94% Binder/Filler/Gypsum	Joint Compound and Drywall Composite/Area 11
099A / 22-1340-27	**None Detected**	None Detected	100% Binder/Filler	Joint Compound/Area 12

Approved By: Vrishni Sandoval

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Southeast Environmental Microbiology Laboratories - Asbestos Division
102 Edinburgh Court Greenville, SC 29607
Phone: 864-233-3770, Fax: 864-233-6589 , www.seeml.com
NVLAP Lab ID:201031-0 Texas Lic: 300474 LELAP ID: 224475

PLM Asbestos Bulk Sample Summary

Revision 1

Client:	G2 Consultants 16869 SW 65th Ave #15 Lake Oswego, OR 97035	Date Sampled:	08/02/22
		Date Received:	08/04/22
		Date Analyzed:	08/09/22
		Date Reported:	08/09/22
		Date Revised:	08/24/22
Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
099B / 22-1340-27	**None Detected**	10% Cellulose	90% Gypsum	Drywall/Area 12
100A / 22-1340-28	**None Detected**	None Detected	100% Organic Matrix	Yellow Mastic/Area 3
100B / 22-1340-28	**None Detected**	40% Cellulose	60% Organic Matrix	Flooring/Area 3
100C / 22-1340-28	**None Detected**	None Detected	100% Organic Matrix	Black Mastic/Area 3
101A / 22-1340-29	**None Detected**	None Detected	100% Organic Matrix	Yellow Mastic/Area 3
101B / 22-1340-29	**None Detected**	40% Cellulose	60% Organic Matrix	Flooring/Area 3
101C / 22-1340-29	**None Detected**	None Detected	100% Organic Matrix	Black Mastic/Area 3
102A / 22-1340-30	**None Detected**	None Detected	100% Organic Matrix	Cove Base/Area 7
102B / 22-1340-30	**None Detected**	None Detected	100% Organic Matrix	Mastic/Area 7

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Form 8.0 Rev. 8 04/29/20

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PLM Asbestos Bulk Sample Summary

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Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
103A / 22-1340-31	**None Detected**	None Detected	100% Organic Matrix	Cove Base/Area 7
103B / 22-1340-31	**None Detected**	None Detected	100% Organic Matrix	Mastic/Area 7
104A / 22-1340-32	**None Detected**	90% Cellulose	10% Binder/Filler	Ceiling Tile/Area 7
105A / 22-1340-33	**None Detected**	90% Cellulose	10% Binder/Filler	Ceiling Tile/Area 8
106A / 22-1340-35	**None Detected**	None Detected	100% Carbon/Quartz	Ceramic Tile/Area 10
106B / 22-1340-35	**None Detected**	None Detected	100% Carbon/Quartz	Grout/Area 10
106C / 22-1340-35	**None Detected**	None Detected	100% Carbon/Quartz	Mortar/Area 10
107A / 22-1340-36	**None Detected**	None Detected	100% Carbon/Quartz	Ceramic Tile/Area 10
107B / 22-1340-36	**None Detected**	None Detected	100% Carbon/Quartz	Mortar/Area 10

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PLM Asbestos Bulk Sample Summary

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Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
108A / 22-1340-37	**None Detected**	None Detected	100% Carbon/Quartz	Grout/Area 10
109A / 22-1340-38	**None Detected**	None Detected	100% Carbon/Quartz	Grout/Area 10
110A / 22-1340-39	**None Detected**	90% Cellulose	10% Organic Matrix	Cork Board/Area 10
110B / 22-1340-39	**None Detected**	None Detected	100% Organic Matrix	Mastic/Area 10
111A / 22-1340-40	**None Detected**	90% Cellulose	10% Organic Matrix	Cork Board/Area 10
111B / 22-1340-40	**None Detected**	None Detected	100% Organic Matrix	Mastic/Area 10
112A / 22-1340-42	**None Detected**	None Detected	100% Organic Matrix	Black Mastic/Area 11
113A / 22-1340-43	**None Detected**	None Detected	100% Organic Matrix	Black Mastic/Area 11
114A / 22-1340-44	**None Detected**	70% Cellulose	30% Organic Matrix	Paper/Area 11 - Attic

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PLM Asbestos Bulk Sample Summary

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Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
115A / 22-1340-45	**None Detected**	70% Cellulose	30% Organic Matrix	Paper/Area 11
116A / 22-1340-46	**None Detected**	50% Cellulose 20% Mineral Wool	30% Organic Matrix	Insulation Backing/Area 1
117A / 22-1340-47	**None Detected**	50% Cellulose 20% Mineral Wool	30% Organic Matrix	Insulation Backing/Area 1
118A / 22-1340-48	**None Detected**	20% Cellulose	80% Organic Matrix	Red Floor Tile/Area 1
118B / 22-1340-48	**None Detected**	None Detected	100% Organic Matrix	Gray Mastic/Area 1
118C / 22-1340-48	**None Detected**	100% Cellulose	None Detected	Green Fibrous Backing/Area 1
119A / 22-1340-49	**None Detected**	20% Cellulose	80% Organic Matrix	Red Floor Tile/Area 1
119B / 22-1340-49	**None Detected**	None Detected	100% Organic Matrix	Gray Mastic/Area 1
119C / 22-1340-49	**None Detected**	100% Cellulose	None Detected	Green Fibrous Backing/Area 1

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PLM Asbestos Bulk Sample Summary

Revision 1

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Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
120A / 22-1340-50	**70% Chrysotile**	20% Cellulose	10% Organic Matrix	Pipe Insulation/Area 1 - Attic
121A / 22-1340-56	**70% Chrysotile**	20% Cellulose	10% Organic Matrix	Pipe Insulation/Area 9
122A / 22-1340-57	**70% Chrysotile**	20% Cellulose	10% Organic Matrix	Pipe Insulation/Area 9
123A / 22-1340-51	**None Detected**	None Detected	100% Organic Matrix	Silver Paint/Area 17 - Interior
124A / 22-1340-52	**None Detected**	None Detected	100% Organic Matrix	Silver Paint/Area 17
125A / 22-1340-53	**None Detected**	None Detected	100% Organic Matrix	Silver Paint/Area 17
126A / 22-1340-54	**None Detected**	70% Cellulose	30% Organic Matrix	Felt/Area 16
127A / 22-1340-55	**None Detected**	70% Cellulose	30% Organic Matrix	Felt/Area 10 - Exterior
128A / 22-1340-58	**10% Chrysotile 15% Amosite**	5% Fiberglass	70% Binder/Filler	Pipe Insulation/Area 9

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Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
129A / 22-1340-59	**15% Chrysotile 15% Amosite**	5% Fiberglass	65% Binder/Filler	Pipe Insulation/Area 9
130A / 22-1340-60	**15% Chrysotile 15% Amosite**	5% Fiberglass	65% Binder/Filler	Pipe Insulation/Area 9
131A / 22-1340-61	**20% Chrysotile 10% Amosite**	5% Fiberglass	65% Binder/Filler	Boiler Insulation/Area 9
132A / 22-1340-62	**20% Chrysotile 10% Amosite**	5% Fiberglass	65% Binder/Filler	Boiler Insulation/Area 9
133A / 22-1340-63	**20% Chrysotile 10% Amosite**	5% Fiberglass	65% Binder/Filler	Boiler Insulation/Area 9
134A / 22-1340-64	**None Detected**	5% Talc	95% Binder/Filler	Putty/Bldg 2 Exterior
135A / 22-1340-65	**None Detected**	5% Talc	95% Binder/Filler	Putty/Bldg 1 Exterior
136A / 22-1340-66	**5% Chrysotile**	None Detected	95% Organic Matrix	Silver Coating/Bldg 3 Exterior
137A / 22-1340-67	**5% Chrysotile**	None Detected	95% Organic Matrix	Silver Coating/Bldg 3 Exterior

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Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
138A / 22-1340-68	**5% Chrysotile**	None Detected	95% Organic Matrix	Silver Coating/Bldg 3 Exterior
139A / 22-1340-69	**None Detected**	None Detected	100% Carbon/Quartz	Brick/Bldg 1 - Roof
140A / 22-1340-70	**None Detected**	None Detected	100% Carbon/Quartz	Brick/Bldg 1 - Roof
141A / 22-1340-71	**None Detected**	None Detected	100% Carbon/Quartz	Mortar/Bldg 1 - Roof
142A / 22-1340-72	**None Detected**	None Detected	100% Carbon/Quartz	Mortar/Bldg 1 - Roof
143A / 22-1340-73	**None Detected**	None Detected	100% Organic Matrix	White Resinous Material/Bldg 1 - Roof
144A / 22-1340-74	**None Detected**	None Detected	100% Organic Matrix	White Resinous Material/Bldg 1 - Roof
145A / 22-1340-75	**3% Chrysotile**	None Detected	97% Organic Matrix	Black Tar/Bldg 1 - Roof
146A / 22-1340-76	**None Detected**	None Detected	100% Organic Matrix	Black Tar/Bldg 1 - Roof

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Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
147A / 22-1340-77	**2% Chrysotile**	None Detected	98% Organic Matrix	Silver Coated Roofing/Bldg 1 - Upper Roof
147B / 22-1340-77	**None Detected**	80% Cellulose	20% Organic Matrix	Felt/Bldg 1 - Upper Roof
147C / 22-1340-77	**None Detected**	20% Fiberglass	80% Organic Matrix	Shingle/Bldg 1 - Upper Roof
147D / 22-1340-77	**None Detected**	100% Cellulose	None Detected	Fibrous Insulation/Bldg 1 - Upper Roof
147E / 22-1340-77	**None Detected**	30% Cellulose	70% Organic Matrix	Fibrous Tar/Bldg 1 - Upper Roof
148A / 22-1340-78	**3% Chrysotile**	None Detected	97% Organic Matrix	Silver Coated Roofing/Bldg 1 -Mid Roof
148B / 22-1340-78	**None Detected**	80% Cellulose	20% Organic Matrix	Felt/Bldg 1 -Mid Roof
148C / 22-1340-78	**None Detected**	20% Fiberglass	80% Organic Matrix	Shingle/Bldg 1 -Mid Roof
148D / 22-1340-78	**None Detected**	100% Cellulose	None Detected	Fibrous Insulation/Bldg 1 -Mid Roof
148E / 22-1340-78	**None Detected**	30% Cellulose	70% Organic Matrix	Fibrous Tar/Bldg 1 -Mid Roof

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PLM Asbestos Bulk Sample Summary

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Revision:	Roofing Layer Separation	Project Name:	Hahn and Associates, Inc.
		Project No:	22-1340
Analyzed by:	Vrishni Sandoval	Project Address:	635-655 Manzanita Ave
		City, State. ZIP:	Manzanita, OR
Methodology:	EPA/600/R-93/116 Without Gravimetry	SEEML Ref#:	220804008-PLM-R

Lab No.: / Client No.:	% Asbestos Type	% Fibrous Non-Asbestos Material Type	% Non-Fibrous Material	Description/Location
149A / 22-1340-79	**4% Chrysotile**	None Detected	96% Organic Matrix	Silver Coated Roofing/Bldg 1&2 - Lower Roof
149B / 22-1340-79	**None Detected**	80% Cellulose	20% Organic Matrix	Felt/Bldg 1&2 - Lower Roof
149C / 22-1340-79	**None Detected**	20% Fiberglass	80% Organic Matrix	Shingle/Bldg 1&2 - Lower Roof
149D / 22-1340-79	**None Detected**	100% Cellulose	None Detected	Fibrous Insulation/Bldg 1&2 - Lower Roof
149E / 22-1340-79	**None Detected**	30% Cellulose	70% Organic Matrix	Fibrous Tar/Bldg 1&2 - Lower Roof
150A / 22-1340-80	**2% Chrysotile**	None Detected	98% Organic Matrix	Silver Coated Roofing/Bldg 2 - Upper Roof
150B / 22-1340-80	**None Detected**	80% Cellulose	20% Organic Matrix	Felt/Bldg 2 - Upper Roof
150C / 22-1340-80	**None Detected**	20% Fiberglass	80% Organic Matrix	Shingle/Bldg 2 - Upper Roof
150D / 22-1340-80	**None Detected**	100% Cellulose	None Detected	Fibrous Insulation/Bldg 2 - Upper Roof
150E / 22-1340-80	**None Detected**	30% Cellulose	70% Organic Matrix	Fibrous Tar/Bldg 2 - Upper Roof

Approved By: Vrishni Sandoval

Disclaimer:

The results in this report only apply to the samples as received.

NOB samples are tested as a preliminary analysis. We highly recommend for Negative NOB samples resulting in less than 1% Asbestos to be verified by TEM or Point Analysis.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. NAD means no asbestos fibers were detected. When detected the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

Guidelines for Interpretation:

Any opinions/interpretations expressed in this report are outside the scope of this laboratory's accreditation. Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork. A material is considered regulated asbestos containing material (ACM) where the asbestos content is determined to be one percent or greater. Several organizations, including the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC) as well as the California Department of Health Services (CADHS) have published guidelines for assessment and interpretation of analytical data indicating a tested material is ACM.

CHAIN OF CUSTODY RECORD

Page #: 1 of 1
G2 Job #: 22-1340
Sample Date: 8/1-2/22
Submit Date: 8/3/22
Sampled By: Noal Kraft

consultants

Website Address:
35-655 Manzanita Ave.
Manzanita
OR

220804008-PLM

G2 Client: Hahn and Assoiciates, Inc
Address: 434 NW 6th Avenue

071-150

G2 Contact: Noal Kraft
Phone #: (503) 784-2941

Asbestos:
☑ PLM ☐ PLM/Point Count 400 ☐ Wipe
☐ TEM ☐ PLM/Point Count 1000 ☐ Vac
Turn-Around Time: ☐ Same Day ☐ Next Day ☐ 2 Day ☑ 3 Day ☐ 4 Day
Results to: labresults@g2ci.com

☐ Other:

Notes:

HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
1	Plaster	22-1340-1	Area 2			
		2	Area 8			
		3	Area 10			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
		4	Area 15			
		5	Area 13			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
2	Drywall Behind Plaster	6	Area 2			
		7	Area 10			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
3	Adhesive Behind Wallboard	8	Area 2			120sf
		9	" "			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
4/5	Floor Tile, 9"x9" Blue & Black & Black mastic	10	Area 2			
		34	Area 8			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
6	Ceiling Tile, 12" x 12" w/Holes	11	Area 2			
		12	Area 10			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
7	Reflective Paper Behind C.T. 12 x 12 w/Holes	13	Area 2			
		41	Area 10			
HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
8	Fiberglass Insulated Pipe Wrap 4"	14	Area 2			
		15	" "			
		16	" "			

Samples Relinquished by:	Samples Relinquished by:
Date and Time: 8/3/22	Date and Time:
Samples Received by: J.H.	Samples Received by:
Date and Time: 8/4/22	Date and Time:

220804008 -PLM

G2 Job #: 22-1340

Jobsite Address:
635-655 Manzanita Ave.
0
Manzanita
97130

HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
9	Light Fixture Insulation	17	Area 2			[redacted]
		18	Area 10			40
10	Glue Under Carpet, Tan	19	Area 3			
		20	Area 10			
		21	Area 1			
11	Wall Texture, Oatmeal	22	Area 3			
		23	Area 12			
		24	" "			
12	Drywall & Joint Compound	25	Area 3			
		26	Area 11			
		27	Area 12			
13	Floor Material Under Carpet	28	Area 3			
		29	" "			
14/15	Cove. Base, 4" Brown (Painted White) w/Brown & Black Adhesive	30	Area 7			
		31	" "			
16	Ceiling Tile, 1'x2' Smooth (No Adhesive)	32	Area 7			
		33	Area 7			
17	Ceramic Tile & Mortar	35 [redacted]	Area 10			
		36 [redacted]	" "			
18	Grout (Ceramic Tile)	37 [redacted]	Area 10			
		38 [redacted]	" "			
19	Adhesive Behind Cork Boards (Black)	39	Area 10 (Area 11)			[redacted] sqft
		40	" "			75
20	Adhesive Behind 12" x 12" C.T w/Holes (Black	42	Area 11			
		43	" 11			

220804008-PLM

G2 Job #: 22-1340

Jobsite Address:
635-655 Manzanita Ave.
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Manzanita
97130

HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
21	Insulation Paper (	44	Area 11 - Attic			
		45	" "			
22	Fiberglass Batt Insulation Backing	46	Area 1			
		47	" "			
23	Brown Mohair Flooring	48	Area 1			
		49	" "			
24	Aircell Pipe Insulation	50	Area 1 (Attic)			
		56	Area 9			
		57	" "			
25	Silver Paint	51	Area 17 (Interior			
		52	" "			
		53	" "			
26	Bldg Felt Behind Cedar Siding	54	Area 16			
		55	Area 10 Exterior			
27	Pipe Fitting Insulation	58	Area 9			
		59	" "			
		60	" "			
28	Boiler Insulation	61	Area 9			
		62	" "			
		63	" "			
29	Window Putty	64	Bldg 2 Exterior			
		65	Bldg 1 "			
30	Silver Paint Coating	66	Bldg 3 Exterior			
		67	" "			
		68	" "			
31	Chimney Mortar	69	Bldg 1 - Roof			
		70				

220804008-PLM

G2 Job #: 22-1340

Jobsite Address:
635-655 Manzanita Ave.
0
Manzanita
97130

HM#	Material Description	Sample #	Sample Location	Condition I/P	Friable Y/N	Quantity
32	Chimney Mortar	22-1340-71	Bldg 1 - Roof			
		72				
33	Roof Patch & Repair Material, White	73	Bldg 1 - Roof			
		74	" "			
34	Roof Patch & Repair Material, Black	75	Bldg 1 - Roof			
		76	" "			
35	Roof Core	77	Bldg 1 - Upper Roof			
		78	Bldg 1 - Mid Roof			
		79	Bldg 1&2 - Lower Roof			
		80	Bldg 2 - Upper Roof			

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Report for:

Mr. Noal Kraft
G2 Consultants
16869 SW 65th Ave. #15
Lake Oswego, OR 97035

Regarding: Project: 22-1340; 635-655 Manzanita Ave
EML ID: 2994432

Approved by:

Technical Manager
David Andrews

Dates of Analysis:
Spore trap analysis: 08-08-2022

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #178599

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested. Information supplied by the client which can affect the validity of results: sample air volume.

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

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

Eurofins EMLab P&K
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(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	22-1340-080122-OA1: Outdoor Air Sample, S. Side of Exterior		22-1340-080122-IA1: Indoor Air Sample. Area 1		22-1340-080122-IA2: Indoor Air Sample. Area 3		22-1340-080122-IA3: Indoor Air Sample. Area 7	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	14411930-1		14411931-1		14411932-1		14411933-1	
Analysis Date:	08/08/2022		08/08/2022		08/08/2022		08/08/2022	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	15	800	10	530	8	430	13	690
Basidiospores	4	210	4	210	4	210	3	160
Chaetomium								
Cladosporium	2	110			4	210	2	110
Epicoccum			1	13	1	13		
Fusarium								
Myrothecium								
Nigrospora								
Other brown							1	13
Other colorless								
Penicillium/Aspergillus types†					59	22,000	107	40,000
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes			2	27	4	53	3	40
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	4+		3+		4+		4+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+		1+		< 1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		1,100		790		23,000		41,000

Comments:

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

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

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	22-1340-080122-IA4: Indoor Air Sample. Area 8		22-1340-080122-IA5: Indoor Air Sample. Area 10		22-1340-080122-IA6: Indoor Air Sample. Area 11		22-1340-080122-IA7: Indoor Air Sample. Area 16	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	14411934-1		14411935-1		14411936-1		14411937-1	
Analysis Date:	08/08/2022		08/08/2022		08/08/2022		08/08/2022	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	9	480	24	1,300	7	370	1	53
Basidiospores	10	530	4	210	2	110	1	53
Chaetomium								
Cladosporium	4	210	4	210	13	690	2	110
Curvularia								
Epicoccum	2	27						
Fusarium								
Myrothecium								
Nigrospora								
Other brown							1	13
Other colorless								
Penicillium/Aspergillus types†	204	76,000	33	1,800	729	270,000	10	530
Pithomyces								
Rusts	2	27					2	27
Smuts, Periconia, Myxomycetes	4	53	5	67	1	13	5	67
Stachybotrys					1	13		
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	> 4+		3+		3+		> 4+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		77,000		3,500		270,000		850

Comments:

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

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

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	22-1340-080122-IA8: Indoor Air Sample. Area 17		22-1340-080122-OA2: Outdoor Air Sample, N. Side of Exterior	
Comments (see below)	None		None	
Lab ID-Version‡:	14411938-1		14411939-1	
Analysis Date:	08/08/2022		08/08/2022	
	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	7	370	23	1,200
Basidiospores	1	53	9	480
Botrytis				
Chaetomium				
Cladosporium	1	53		
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Other brown				
Other colorless				
Penicillium/Aspergillus types†	1	53	10	530
Pithomyces				
Rusts				
Smuts, Periconia, Myxomycetes	1	13		
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	> 4+		1+	
Hyphal fragments/m3	< 13		< 13	
Pollen/m3	< 13		< 13	
Skin cells (1-4+)	< 1+		< 1+	
Sample volume (liters)	75		75	
§ TOTAL SPORES/m3		550		2,200

Comments:

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

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

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Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 22-1340-080122-OA1, Outdoor Air Sample, S. Side of Exterior

Fungi Identified	Outdoor data	Typical Outdoor Data for: August in Oregon† (n‡=1579)						Typical Outdoor Data for: The entire year in Oregon† (n‡=18247)					
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	13	13	27	67	130	47	13	13	27	53	110	20
Bipolaris/Drechslera group	-	13	13	13	27	53	7	13	13	13	40	53	3
Chaetomium	-	7	13	13	27	40	11	8	13	13	27	40	5
Cladosporium	110	160	320	850	2,300	4,100	98	53	110	370	1,400	2,700	85
Curvularia	-	7	13	13	42	110	5	7	13	13	27	53	2
Epicoccum	-	13	13	27	53	110	33	13	13	20	53	93	14
Nigrospora	-	13	13	13	30	53	4	10	13	13	27	53	2
Other brown	-	13	13	27	53	93	38	13	13	27	53	67	24
Penicillium/Aspergillus types	-	53	110	320	850	1,300	90	53	110	270	690	1,200	86
Stachybotrys	-	13	13	13	27	40	3	13	13	13	42	130	1
Torula	-	13	13	25	53	100	16	13	13	20	53	80	6
Seldom found growing indoors**													
Ascospores	800	53	110	270	750	1,300	87	53	110	430	1,500	2,900	89
Basidiospores	210	160	280	910	2,500	4,400	98	110	270	1,200	4,400	8,500	96
Rusts	-	13	13	27	67	120	35	13	13	27	53	110	17
Smuts, Periconia, Myxomycetes	-	13	20	53	210	480	73	13	13	53	160	370	51
§ TOTAL SPORES/m3	1,100												

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

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

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

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

‡n = number of samples used to calculate data.

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

Eurofins EMLab P&K
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(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 22-1340-080122-OA2, Outdoor Air Sample, N. Side of Exterior

Fungi Identified	Outdoor data	Typical Outdoor Data for: August in Oregon† (n‡=1579)						Typical Outdoor Data for: The entire year in Oregon† (n‡=18247)					
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	13	13	27	67	130	47	13	13	27	53	110	20
Bipolaris/Drechslera group	-	13	13	13	27	53	7	13	13	13	40	53	3
Chaetomium	-	7	13	13	27	40	11	8	13	13	27	40	5
Cladosporium	-	160	320	850	2,300	4,100	98	53	110	370	1,400	2,700	85
Curvularia	-	7	13	13	42	110	5	7	13	13	27	53	2
Epicoccum	-	13	13	27	53	110	33	13	13	20	53	93	14
Nigrospora	-	13	13	13	30	53	4	10	13	13	27	53	2
Other brown	-	13	13	27	53	93	38	13	13	27	53	67	24
Penicillium/Aspergillus types	530	53	110	320	850	1,300	90	53	110	270	690	1,200	86
Stachybotrys	-	13	13	13	27	40	3	13	13	13	42	130	1
Torula	-	13	13	25	53	100	16	13	13	20	53	80	6
Seldom found growing indoors**													
Ascospores	1,200	53	110	270	750	1,300	87	53	110	430	1,500	2,900	89
Basidiospores	480	160	280	910	2,500	4,400	98	110	270	1,200	4,400	8,500	96
Rusts	-	13	13	27	67	120	35	13	13	27	53	110	17
Smuts, Periconia, Myxomycetes	-	13	20	53	210	480	73	13	13	53	160	370	51
§ TOTAL SPORES/m3	2,200												

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

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

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

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

‡n = number of samples used to calculate data.

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Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 22-1340-080122-OA1, Outdoor Air Sample, S. Side of Exterior

Fungi Identified	Outdoor data	Typical Outdoor Data by Date† Month: August				Typical Outdoor Data by Location‡ State: OR			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	-	7	40	430	52	7	27	270	16
Bipolaris/Drechslera group	-	7	13	270	19	7	13	110	2
Chaetomium	-	7	13	130	11	7	13	110	4
Cladosporium	110	33	700	8,900	94	27	390	7,000	85
Curvularia	-	7	33	800	31	7	13	99	2
Nigrospora	-	7	27	290	24	7	13	70	2
Penicillium/Aspergillus types	-	27	270	3,500	67	27	270	2,900	83
Stachybotrys	-	7	13	470	3	7	13	420	< 1
Torula	-	7	20	210	11	7	13	160	4
Seldom found growing indoors**									
Ascospores	800	13	430	6,800	82	38	480	8,200	88
Basidiospores	210	27	850	43,000	93	53	1,100	25,000	95
Rusts	-	7	27	420	21	7	27	500	13
Smuts, Periconia, Myxomycetes	-	8	53	1,200	73	7	53	1,200	49
§ TOTAL SPORES/m3	1,100								

† The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

‡ The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

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

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

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

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Date of Sampling: 08-01-2022
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Date of Report: 08-08-2022

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 22-1340-080122-OA2, Outdoor Air Sample, N. Side of Exterior

Fungi Identified	Outdoor data	Typical Outdoor Data by Date† Month: August				Typical Outdoor Data by Location‡ State: OR			
	spores/m3	low	med	high	freq %	low	med	high	freq %
Generally able to grow indoors*									
Alternaria	-	7	40	430	52	7	27	270	16
Bipolaris/Drechslera group	-	7	13	270	19	7	13	110	2
Chaetomium	-	7	13	130	11	7	13	110	4
Cladosporium	-	33	700	8,900	94	27	390	7,000	85
Curvularia	-	7	33	800	31	7	13	99	2
Nigrospora	-	7	27	290	24	7	13	70	2
Penicillium/Aspergillus types	530	27	270	3,500	67	27	270	2,900	83
Stachybotrys	-	7	13	470	3	7	13	420	< 1
Torula	-	7	20	210	11	7	13	160	4
Seldom found growing indoors**									
Ascospores	1,200	13	430	6,800	82	38	480	8,200	88
Basidiospores	480	27	850	43,000	93	53	1,100	25,000	95
Rusts	-	7	27	420	21	7	27	500	13
Smuts, Periconia, Myxomycetes	-	8	53	1,200	73	7	53	1,200	49
§ TOTAL SPORES/m3	2,200								

† The Typical Outdoor Data by Date represents the typical outdoor spore levels across North America for the month indicated. The last column represents the frequency of occurrence. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 2.5% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

‡ The Typical Outdoor Data by Location represents the typical outdoor spore levels for the region indicated for the entire year. As with the Typical Outdoor Data by Date, the four columns represent the frequency of occurrence and the typical low, medium, and high concentration values for the spore type indicated. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

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

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

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Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: 22-1340-080122-OA1: Outdoor Air Sample, S. Side of Exterior

Species detected	Outdoor sample spores/m3 (<100 / 1K / 10K / >100K)	Typical outdoor ranges (North America)	Freq. %
Ascospores	800	13 - 230 - 6,100	75
Basidiospores	210	13 - 440 - 25,000	89
Cladosporium	110	27 - 480 - 7,800	88
Penicillium/Aspergillus types	< 13	17 - 200 - 2,800	63
Smuts, Periconia, Myxomycetes	< 13	7 - 53 - 950	66
Total	1,100		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 22-1340-080122-IA1: Indoor Air Sample. Area 1

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 69%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.6750 Critical value: 0.8000 Outside Similar: No	Score: 114 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	530
Basidiospores	210
Epicoccum	13
Smuts, Periconia, Myxomycetes	27
Total	790

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MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA2: Indoor Air Sample. Area 3

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 2046%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.4143 Critical value: 0.7714 Outside Similar: No	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	430
Basidiospores	210
Cladosporium	210
Epicoccum	13
Penicillium/Aspergillus types	22,000
Smuts, Periconia, Myxomycetes	53
Total	23,000

Location: 22-1340-080122-IA3: Indoor Air Sample. Area 7

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3661%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.4286 Critical value: 0.7714 Outside Similar: No	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	690
Basidiospores	160
Cladosporium	110
Other brown	13
Penicillium/Aspergillus types	40,000
Smuts, Periconia, Myxomycetes	40
Total	41,000

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MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA4: Indoor Air Sample. Area 8

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 6904%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6000	dF: 7 Result: 0.5089 Critical value: 0.6786 Outside Similar: No	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	480
Basidiospores	530
Cladosporium	210
Epicoccum	27
Penicillium/Aspergillus types	76,000
Rusts	27
Smuts, Periconia, Myxomycetes	53
Total	77,000

Location: 22-1340-080122-IA5: Indoor Air Sample. Area 10

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 320%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.7500	dF: 5 Result: 0.2000 Critical value: 0.8000 Outside Similar: No	Score: 286 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	1,300
Basidiospores	210
Cladosporium	210
Penicillium/Aspergillus types	1,800
Smuts, Periconia, Myxomycetes	67
Total	3,500

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MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA6: Indoor Air Sample. Area 11

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 24213%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.2714 Critical value: 0.7714 Outside Similar: No	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	370
Basidiospores	110
Cladosporium	690
Penicillium/Aspergillus types	270,000
Smuts, Periconia, Myxomycetes	13
Stachybotrys	13
Total	270,000

Location: 22-1340-080122-IA7: Indoor Air Sample. Area 16

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 76%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6000	dF: 7 Result: 0.1339 Critical value: 0.6786 Outside Similar: No	Score: 181 Result: Medium

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	53
Basidiospores	53
Cladosporium	110
Other brown	13
Penicillium/Aspergillus types	530
Rusts	27
Smuts, Periconia, Myxomycetes	67
Total	850

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MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA8: Indoor Air Sample. Area 17

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 48%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.7500	dF: 5 Result: 0.8250 Critical value: 0.8000 Outside Similar: Yes	Score: 108 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	370
Basidiospores	53
Cladosporium	53
Penicillium/Aspergillus types	53
Smuts, Periconia, Myxomycetes	13
Total	550

* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

*** The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

**** MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. Eurofins EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

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Date of Sampling: 08-01-2022
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MoldSTAT™: Supplementary Statistical Spore Trap Report

Outdoor Summary: 22-1340-080122-OA2: Outdoor Air Sample, N. Side of Exterior

Species detected	Outdoor sample spores/m3 (<100 / 1K / 10K / >100K)	Typical outdoor ranges (North America)	Freq. %
Ascospores	1,200	13 - 230 - 6,100	75
Basidiospores	480	13 - 440 - 25,000	89
Cladosporium	< 13	27 - 480 - 7,800	88
Penicillium/Aspergillus types	530	17 - 200 - 2,800	63
Smuts, Periconia, Myxomycetes	< 13	7 - 53 - 950	66
Total	2,200		

The "Typical outdoor ranges" and "Freq. %" columns show the typical low, medium, and high spore counts per cubic meter and the frequency of occurrence for the given spore type. The low, medium, and high values represent the 2.5, 50, and 97.5 percentile values when the spore type is detected. For example, if the low value is 53 and the frequency of occurence is 63%, it would mean that we typically detect the given spore type on 63 percent of all outdoor samples and, when detected, 2.5% of the time it is present in levels below 53 spores/m3.

Indoor Samples

Location: 22-1340-080122-IA1: Indoor Air Sample. Area 1

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 35%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.5714	dF: 5 Result: 0.3750 Critical value: 0.8000 Outside Similar: No	Score: 110 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	530
Basidiospores	210
Epicoccum	13
Smuts, Periconia, Myxomycetes	27
Total	790

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MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA2: Indoor Air Sample. Area 3

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1036%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.8429 Critical value: 0.7714 Outside Similar: Yes	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	430
Basidiospores	210
Cladosporium	210
Epicoccum	13
Penicillium/Aspergillus types	22,000
Smuts, Periconia, Myxomycetes	53
Total	23,000

Location: 22-1340-080122-IA3: Indoor Air Sample. Area 7

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 1855%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.8857 Critical value: 0.7714 Outside Similar: Yes	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	690
Basidiospores	160
Cladosporium	110
Other brown	13
Penicillium/Aspergillus types	40,000
Smuts, Periconia, Myxomycetes	40
Total	41,000

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Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA4: Indoor Air Sample. Area 8

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 3498%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6000	dF: 7 Result: 0.8125 Critical value: 0.6786 Outside Similar: Yes	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	480
Basidiospores	530
Cladosporium	210
Epicoccum	27
Penicillium/Aspergillus types	76,000
Rusts	27
Smuts, Periconia, Myxomycetes	53
Total	77,000

Location: 22-1340-080122-IA5: Indoor Air Sample. Area 10

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 162%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.7500	dF: 5 Result: 0.8250 Critical value: 0.8000 Outside Similar: Yes	Score: 259 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	1,300
Basidiospores	210
Cladosporium	210
Penicillium/Aspergillus types	1,800
Smuts, Periconia, Myxomycetes	67
Total	3,500

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Date of Report: 08-08-2022

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA6: Indoor Air Sample. Area 11

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 12271%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6667	dF: 6 Result: 0.5571 Critical value: 0.7714 Outside Similar: No	Score: 300 Result: High

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	370
Basidiospores	110
Cladosporium	690
Penicillium/Aspergillus types	270,000
Smuts, Periconia, Myxomycetes	13
Stachybotrys	13
Total	270,000

Location: 22-1340-080122-IA7: Indoor Air Sample. Area 16

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 38%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.6000	dF: 7 Result: 0.3482 Critical value: 0.6786 Outside Similar: No	Score: 151 Result: Medium

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	53
Basidiospores	53
Cladosporium	110
Other brown	13
Penicillium/Aspergillus types	530
Rusts	27
Smuts, Periconia, Myxomycetes	67
Total	850

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Date of Report: 08-08-2022

MoldSTAT™: Supplementary Statistical Spore Trap Report

Location: 22-1340-080122-IA8: Indoor Air Sample. Area 17

% of outdoor total spores/m3	Friedman chi-square* (indoor variation)	Agreement ratio** (indoor/outdoor)	Spearman rank correlation*** (indoor/outdoor)	MoldSCORE**** (indoor/outdoor)
Result: 24%	dF: 7 Result: 10.4907 Critical value: 14.0671 Inside Similar: Yes	Result: 0.7500	dF: 5 Result: 0.8250 Critical value: 0.8000 Outside Similar: Yes	Score: 103 Result: Low

Species Detected	Spores/m3 (<100 / 1K / 10K / >100K)
Ascospores	370
Basidiospores	53
Cladosporium	53
Penicillium/Aspergillus types	53
Smuts, Periconia, Myxomycetes	13
Total	550

* The Friedman chi-square statistic is a non-parametric test that examines variation in a set of data (in this case, all indoor spore counts). The null hypothesis (H0) being tested is that there is no meaningful difference in the data for all indoor locations. The alternative hypothesis (used if the test disproves the null hypothesis) is that there is a difference between the indoor locations. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

** An agreement ratio is a simple method for assessing the similarity of two samples (in this case the indoor sample and the outdoor summary) based on the spore types present. A score of one indicates that the types detected in one location are the same as that in the other. A score of zero indicates that none of the types detected indoors are present outdoors. Typically, an agreement of 0.8 or higher is considered high.

*** The Spearman rank correlation is a non-parametric test that examines correlation between two sets of data (in this case the indoor location and the outdoor summary). The null hypothesis (H0) being tested is that the indoor and outdoor samples are unrelated. The alternative hypothesis (used if the test disproves the null hypothesis) is that the samples are similar. The null hypothesis is rejected when the result of the test is greater than the critical value. The critical value that is displayed is based on the degrees of freedom (dF) of the test and a significance level of 0.05.

**** MoldSCORE™ is a specialized method for examining air sampling data. It is a score between 100 and 300, with 100 indicating a greater likelihood that the airborne indoor spores originated from the outside, and 300 indicating a greater likelihood that they originated from an inside source. The Result displayed is based on the numeric score given and will be either Low, Medium, or High, indicating a low, medium, or high likelihood that the spores detected originated from an indoor source. Eurofins EMLab P&Kreserves the right to, and may at anytime, modify or change the MoldScore algorithm without notice.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor ranges" are based on the results of the analysis of samples delivered to and analyzed by Eurofins EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. With the statistical analysis provided, as with all statistical comparisons and analyses, false-positive and false-negative results can and do occur. Eurofins EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the data contained in, or any actions taken or omitted in reliance upon, this report.

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MoldSCORE™: Spore Trap Report

Outdoor Sample: 22-1340-080122-OA1 Outdoor Air Sample, S. Side of Exterior

Fungi Identified	Outdoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3
Generally able to grow indoors*			
Alternaria		ND	< 13
Bipolaris/Drechslera group		ND	< 13
Chaetomium		ND	< 13
Cladosporium		2	110
Curvularia		ND	< 13
Nigrospora		ND	< 13
Penicillium/Aspergillus types†		ND	< 13
Stachybotrys		ND	< 13
Torula		ND	< 13
Seldom found growing indoors**			
Ascospores		15	800
Basidiospores		4	210
Rusts		ND	< 13
Smuts, Periconia, Myxomycetes		ND	< 13
Total			**1,120**

Location: 22-1340-080122-IA1 Indoor Air Sample. Area 1

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		ND	< 13		100
Curvularia		ND	< 13		100
Epicoccum		1	13		105
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		ND	< 13		100
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		10	530		182
Basidiospores		4	210		113
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		2	27		105
Total			**787**	**Final MoldSCORE**	**113**

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MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA2 Indoor Air Sample. Area 3

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		4	210		109
Curvularia		ND	< 13		100
Epicoccum		1	13		105
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		59	22,000		300
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		8	430		100
Basidiospores		4	210		110
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		4	53		111
Total			**22,773**	**Final MoldSCORE**	**300**

Location: 22-1340-080122-IA3 Indoor Air Sample. Area 7

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		2	110		103
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Other brown		1	13		105
Penicillium/Aspergillus types†		107	40,000		300
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		13	690		191
Basidiospores		3	160		104
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		3	40		108
Total			**40,640**	**Final MoldSCORE**	**300**

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MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA4 Indoor Air Sample. Area 8

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		4	210		109
Curvularia		ND	< 13		100
Epicoccum		2	27		111
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		204	76,000		300
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		9	480		113
Basidiospores		10	530		143
Rusts		2	27		111
Smuts, Periconia, Myxomycetes		4	53		111
Total			**76,893**	**Final MoldSCORE**	**300**

Location: 22-1340-080122-IA5 Indoor Air Sample. Area 10

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		4	210		109
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		33	1,800		286
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		24	1,300		293
Basidiospores		4	210		110
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		5	67		113
Total			**3,533**	**Final MoldSCORE**	**286**

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MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA6 Indoor Air Sample. Area 11

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		13	690		140
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		729	270,000		300
Stachybotrys		1	13		121
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		7	370		100
Basidiospores		2	110		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		1	13		103
Total			**271,200**	**Final MoldSCORE**	**300**

Location: 22-1340-080122-IA7 Indoor Air Sample. Area 16

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		2	110		104
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Other brown		1	13		105
Penicillium/Aspergillus types†		10	530		181
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		1	53		100
Basidiospores		1	53		100
Rusts		2	27		111
Smuts, Periconia, Myxomycetes		5	67		113
Total			**853**	**Final MoldSCORE**	**181**

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MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA8 Indoor Air Sample. Area 17

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		1	53		101
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		1	53		108
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		7	370		159
Basidiospores		1	53		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		1	13		103
Total			**547**	**Final MoldSCORE**	**108**

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

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

†The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

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MoldSCORE™: Spore Trap Report

Outdoor Sample: 22-1340-080122-OA2 Outdoor Air Sample, N. Side of Exterior

Fungi Identified	Outdoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3
Generally able to grow indoors*			
Alternaria		ND	< 13
Bipolaris/Drechslera group		ND	< 13
Chaetomium		ND	< 13
Cladosporium		ND	< 13
Curvularia		ND	< 13
Nigrospora		ND	< 13
Penicillium/Aspergillus types†		10	530
Stachybotrys		ND	< 13
Torula		ND	< 13
Seldom found growing indoors**			
Ascospores		23	1,200
Basidiospores		9	480
Rusts		ND	< 13
Smuts, Periconia, Myxomycetes		ND	< 13
Total			**2,240**

Location: 22-1340-080122-IA1 Indoor Air Sample. Area 1

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		ND	< 13		100
Curvularia		ND	< 13		100
Epicoccum		1	13		105
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		ND	< 13		100
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		10	530		143
Basidiospores		4	210		104
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		2	27		105
Total			**787**	**Final MoldSCORE**	**110**

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MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA2 Indoor Air Sample. Area 3

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		4	210		113
Curvularia		ND	< 13		100
Epicoccum		1	13		105
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		59	22,000		300
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		8	430		100
Basidiospores		4	210		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		4	53		111
Total			**22,773**	**Final MoldSCORE**	**300**

Location: 22-1340-080122-IA3 Indoor Air Sample. Area 7

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		2	110		107
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Other brown		1	13		105
Penicillium/Aspergillus types†		107	40,000		300
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		13	690		100
Basidiospores		3	160		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		3	40		108
Total			**40,640**	**Final MoldSCORE**	**300**

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MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA4 Indoor Air Sample. Area 8

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		4	210		113
Curvularia		ND	< 13		100
Epicoccum		2	27		111
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		204	76,000		300
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		9	480		100
Basidiospores		10	530		105
Rusts		2	27		111
Smuts, Periconia, Myxomycetes		4	53		111
Total			**76,893**	**Final MoldSCORE**	**300**

Location: 22-1340-080122-IA5 Indoor Air Sample. Area 10

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		4	210		113
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		33	1,800		259
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		24	1,300		139
Basidiospores		4	210		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		5	67		113
Total			**3,533**	**Final MoldSCORE**	**259**

Eurofins EMLab P&K
19515 North Creek Pkwy N, #100, Bothell, WA 98011
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA6 Indoor Air Sample. Area 11

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		13	690		143
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		729	270,000		300
Stachybotrys		1	13		121
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		7	370		100
Basidiospores		2	110		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		1	13		103
Total			**271,200**	**Final MoldSCORE**	**300**

Location: 22-1340-080122-IA7 Indoor Air Sample. Area 16

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		2	110		107
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Other brown		1	13		105
Penicillium/Aspergillus types†		10	530		151
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		1	53		100
Basidiospores		1	53		100
Rusts		2	27		111
Smuts, Periconia, Myxomycetes		5	67		113
Total			**853**	**Final MoldSCORE**	**151**

Eurofins EMLab P&K
19515 North Creek Pkwy N, #100, Bothell, WA 98011
(866) 888-6653 Fax (623) 780-7695 www.emlab.com

Client: G2 Consultants
C/O: Mr. Noal Kraft
Re: 22-1340; 635-655 Manzanita Ave

Date of Sampling: 08-01-2022
Date of Receipt: 08-04-2022
Date of Report: 08-08-2022

MoldSCORE™: Spore Trap Report

Location: 22-1340-080122-IA8 Indoor Air Sample. Area 17

Fungi Identified	Indoor sample spores/m3 <100 1K 10K >100K	Raw count	Spores/ m3	MoldSCORE‡ 100 200 300	Score
Generally able to grow indoors*					
Alternaria		ND	< 13		100
Bipolaris/Drechslera group		ND	< 13		100
Chaetomium		ND	< 13		100
Cladosporium		1	53		103
Curvularia		ND	< 13		100
Nigrospora		ND	< 13		100
Penicillium/Aspergillus types†		1	53		100
Stachybotrys		ND	< 13		100
Torula		ND	< 13		100
Seldom found growing indoors**					
Ascospores		7	370		131
Basidiospores		1	53		100
Rusts		ND	< 13		100
Smuts, Periconia, Myxomycetes		1	13		103
Total			**547**	**Final MoldSCORE**	**103**

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

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

†The spores of Aspergillus and Penicillium (and others such as Acremonium, Paecilomyces) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods.

‡Rated on a scale from 100 to 300. A rating less than 150 is low and indicates a low probability of spores originating inside. A rating greater than 250 is high and indicates a high probability that the spores originated from inside, presumably from indoor mold growth. A rating between 150 and 250 indicates a moderate likelihood of indoor fungal growth. MoldSCORE is NOT intended for wall cavity samples. It is intended for ambient air samples in residences. Using the analysis on other samples (like wall cavity samples) will lead to misleading results.

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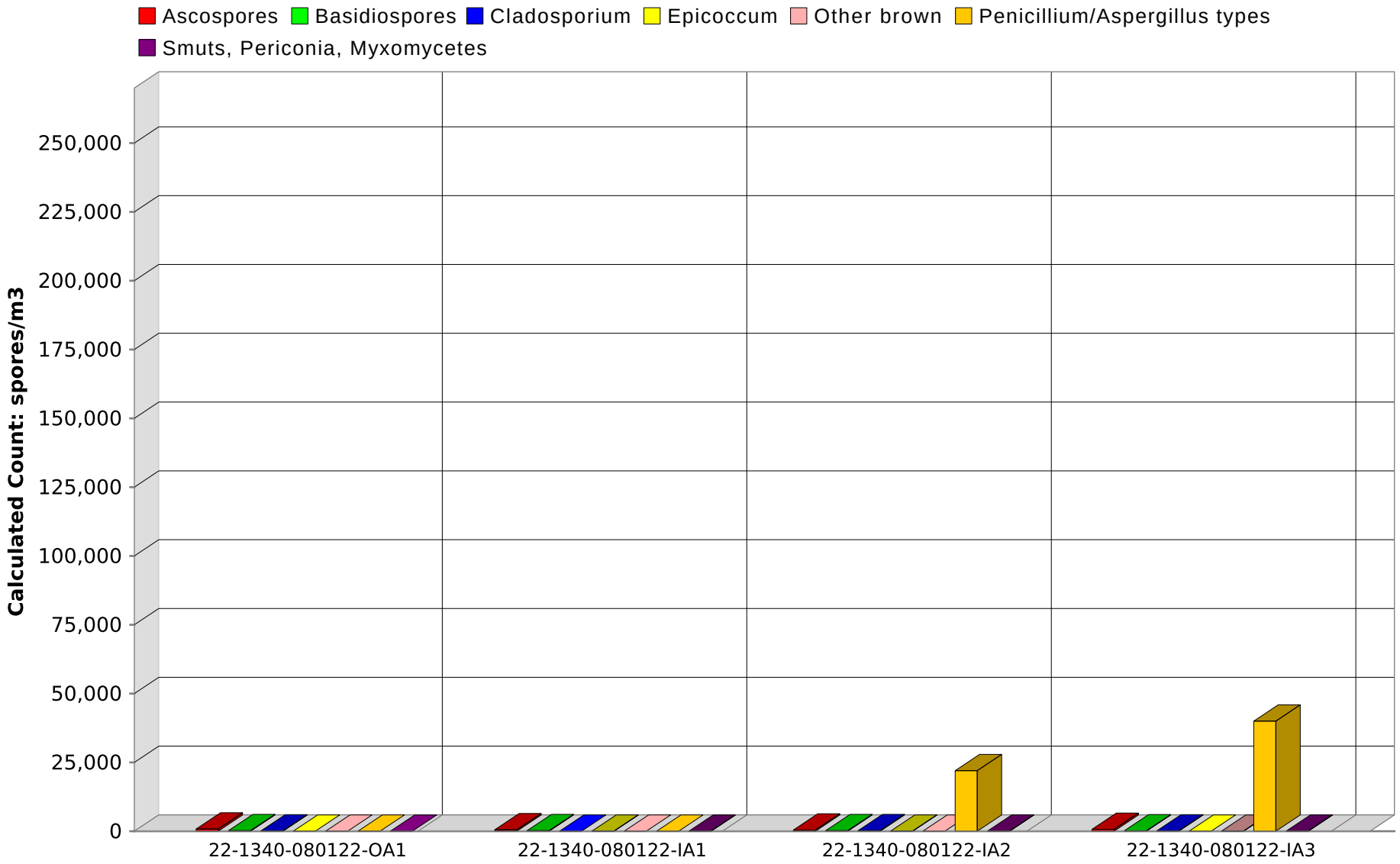
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

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

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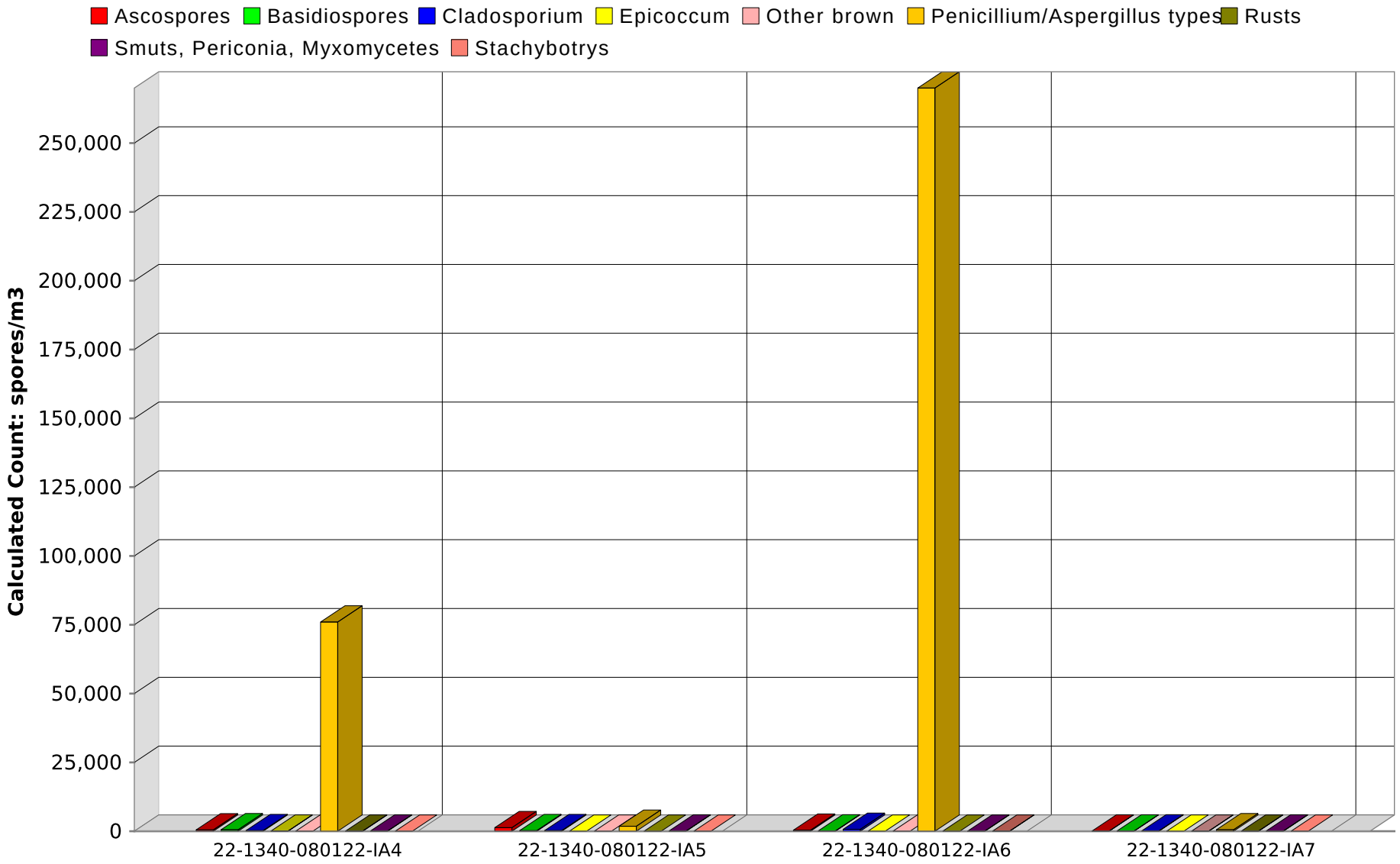
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

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

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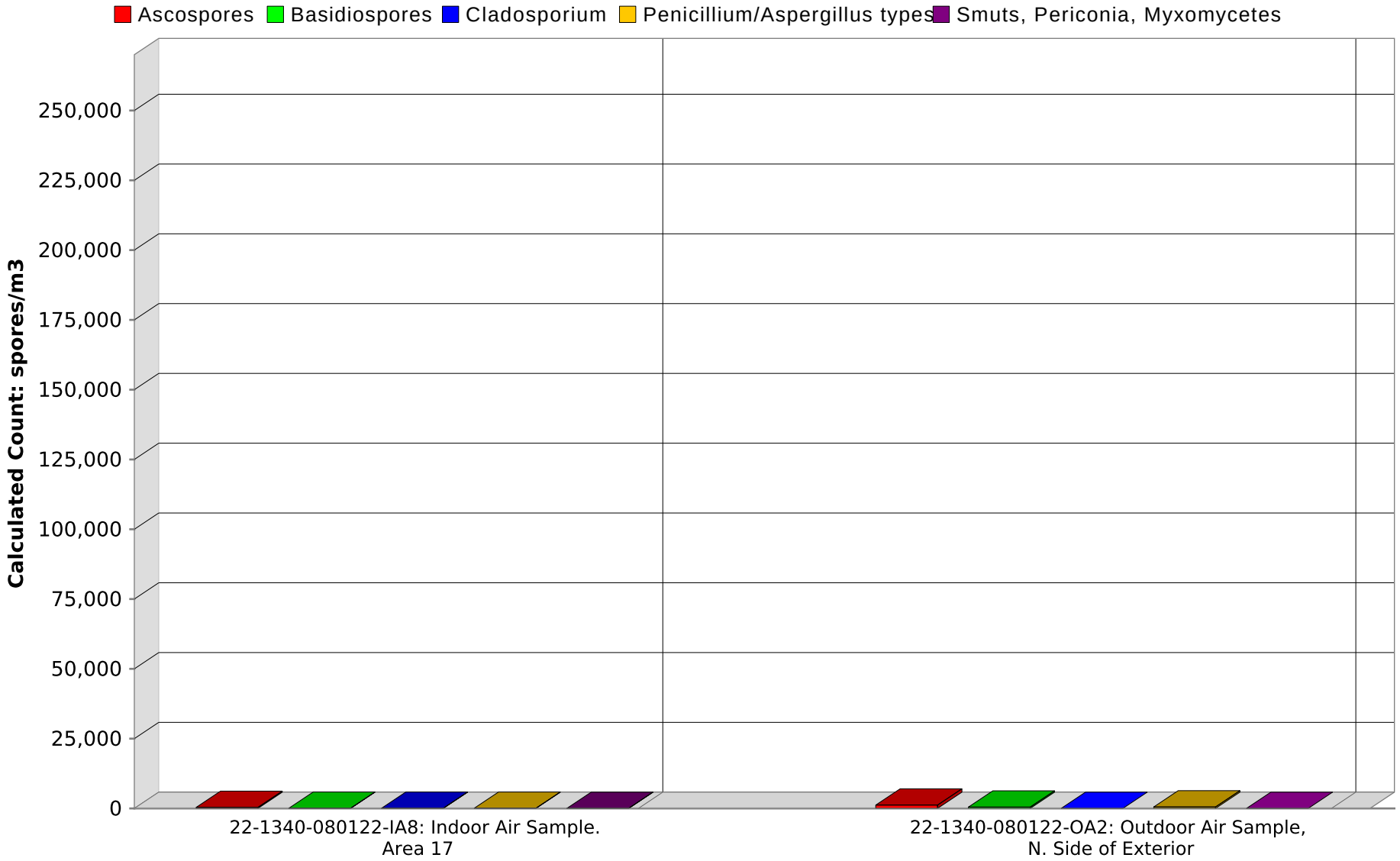
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

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

consultants

CHAIN OF CUSTODY RECORD

Client: Hahn and Assoiciates, Inc
Site Address: 635-655 Manzanita Ave.
0
Manzanita
OR
G2 Contact: Noal Kraft
Phone #: (503) 784-2941

Page #: 1 of 1

002994432

G2 Job #: 22-1340
Sample Date: 8/1/22
Sampled by: Noal Kraft

Analysis Type:	Mold:	Other:
	☐ Tapelift ☐ Bulk	Air Sample

Turn-Around Time: ☐ RUSH ☐ 24-Hour ☑ 48-Hour ☐ 72-Hour
Results to: labresults@g2ci.com

Notes:

Sample #	Material Description	Sample Location	Material Extent	Condition	Quantity
22-1340-080122	Outdoor Air Sample	S. Side Of Entrance	3419-3250	10:27	
OA1			03/23	10:32	
	Indoor Air Sample	Area 1	3419-3264	10:34	
IA1			03/23	10:39	
		Area 3	3419-3266	10:41	
IA2			03/23	10:46	
		Area 7	3419-3251	10:49	
IA3			03/23	10:54	
		Area 8	3419-3267	10:55	
IA4			03/23	11:00	
		Area 10	3419-3262	11:02	
IA5			03/23	11:07	
		Area 11	3419-3110	11:09	
IA6			03/23	11:14	
		Area #16	3419-3257	11:17	
IA7			03/23	11:22	
		Area #17	3419-3252	11:24	
IA8			03/23	11:29	
	Outdoor Air Sample	N. Side Of Entrance	3329-4409	11:33	
OA2			09/22	11:38	

Samples Relinquished by: _____
Date and Time: _____
Samples Received by: _____
Date and Time: 8/4/22 10:00--

Samples Relinquished by: _____
Date and Time: _____
Samples Received by: _____
Date and Time: _____

Appendix D:

XRF Readings Table

Hahn and Associates, Inc.
Regulated Building Materials Survey
Multiple Bldgs - 635-655 Manzanita Ave, Manzanita, OR
XRF Readings Table
August 24, 2022

READING NO	SITE	STRUCTURE	FLOOR	ROOM	COMPONENT	SUBSTRATE	SIDE	COLOR	RESULTS	CONDITION	PbC	UNITS	ACTION LEVEL	PbC Error
1	CALIBRATION										1.55	cps		0
2	CALIBRATION								POSITIVE		1	mg/cm^2	1	0.1
3	CALIBRATION								POSITIVE		1	mg/cm^2	1	0.1
4	CALIBRATION								POSITIVE		1.2	mg/cm^2	1	0.1
5	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Wall	Plaster	A	Wallpaper	NEGATIVE	Intact	0	mg/cm^2	1	0.02
6	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Baseboard	Wood	A	White	NEGATIVE	Intact	0.4	mg/cm^2	1	0.6
7	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Window Sill	Ceramic	A	White	NEGATIVE	Intact	0.5	mg/cm^2	1	0.2
8	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Door Trim	Wood	B	White	NEGATIVE	Intact	0.26	mg/cm^2	1	0.48
9	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Ceiling	Plaster	B	White	NEGATIVE	Intact	0.01	mg/cm^2	1	0.03
10	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Cabinet Door	Wood	B	White	NEGATIVE	Intact	0.4	mg/cm^2	1	0.2
11	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Countertop	Ceramic	B	Gray	NEGATIVE	Intact	0.6	mg/cm^2	1	0.3
12	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Window	Wood	C	White	NEGATIVE	Intact	0.3	mg/cm^2	1	0.63
13	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Window Sill	Wood	C	White	NEGATIVE	Fair	0.27	mg/cm^2	1	0.53
14	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Window	Wood	C	White	NEGATIVE	Fair	0.06	mg/cm^2	1	0.09
15	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Window Trim	Wood	C	White	NEGATIVE	Intact	0.07	mg/cm^2	1	0.14
16	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Door	Wood	C	White	NEGATIVE	Poor	0.7	mg/cm^2	1	0.3
17	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Wall	Drywall	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
18	635-655 MANZANITA AVE, MANZANITA, OR	AREA 1	1st	INTERIOR	Ceiling	Ceiling Tile	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
19	635-655 MANZANITA AVE, MANZANITA, OR	AREA 2	1st	INTERIOR	Ceiling	Ceiling Tile	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
20	635-655 MANZANITA AVE, MANZANITA, OR	AREA 2	1st	INTERIOR	Wall	Plaster	C	Green	NEGATIVE	Intact	0.02	mg/cm^2	1	0.06
21	635-655 MANZANITA AVE, MANZANITA, OR	AREA 2	1st	INTERIOR	Window	Wood	B	Pink	NEGATIVE	Intact	0.13	mg/cm^2	1	0.17
22	635-655 MANZANITA AVE, MANZANITA, OR	AREA 2	1st	INTERIOR	Window Sill	Wood	B	Green	POSITIVE	Fair	1.3	mg/cm^2	1	0.2
23	NULL SAMPLE													
24	NULL SAMPLE													
25	635-655 MANZANITA AVE, MANZANITA, OR	AREA 2	1st	INTERIOR	Baseboard	Wood	A	Green	NEGATIVE	Fair	0.19	mg/cm^2	1	0.48
26	635-655 MANZANITA AVE, MANZANITA, OR	AREA 2	1st	INTERIOR	Heater Cover	Metal	B	Green	NEGATIVE	Poor	0.06	mg/cm^2	1	0.16
27	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Window Sill	Wood	A	White	NEGATIVE	Fair	0	mg/cm^2	1	0.03
28	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Window Trim	Wood	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
29	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Baseboard	Wood	D	White	NEGATIVE	Intact	0.08	mg/cm^2	1	0.27
30	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Wall	Plaster	D	White	NEGATIVE	Fair	0	mg/cm^2	1	0.02
31	NULL SAMPLE													
32	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Closet Door	Wood	D	White	NEGATIVE	Fair	0.5	mg/cm^2	1	0.3
33	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Closet Door Trim	Wood	D	White	NEGATIVE	Intact	0.06	mg/cm^2	1	0.08
34	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Door Trim	Wood	A	White	NEGATIVE	Fair	0.13	mg/cm^2	1	0.24
35	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Door	Wood	A	Stained	NEGATIVE	Fair	0.01	mg/cm^2	1	0.07
36	NULL SAMPLE													
37	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Ceiling	Plaster	Upper	White	NEGATIVE	Intact	0.01	mg/cm^2	1	0.03
38	635-655 MANZANITA AVE, MANZANITA, OR	AREA 3	1st	INTERIOR	Ceiling	Ceiling Tile	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
39	635-655 MANZANITA AVE, MANZANITA, OR	AREA 4	1st	INTERIOR	Ceiling	Drywall	Upper	White	NEGATIVE	Intact	0.28	mg/cm^2	1	0.08
40	635-655 MANZANITA AVE, MANZANITA, OR	AREA 4	1st	INTERIOR	Wall	Drywall	A	Beige	NEGATIVE	Intact	0.11	mg/cm^2	1	0.1
41	635-655 MANZANITA AVE, MANZANITA, OR	AREA 4	1st	INTERIOR	Window Trim	Wood	A	Beige	POSITIVE	Intact	1.6	mg/cm^2	1	0.5
42	635-655 MANZANITA AVE, MANZANITA, OR	AREA 4	1st	INTERIOR	Window	Wood	A	Beige	POSITIVE	Poor	5	mg/cm^2	1	3.8
43	635-655 MANZANITA AVE, MANZANITA, OR	AREA 4	1st	INTERIOR	Baseboard	Wood	B	White	POSITIVE	Poor	1.2	mg/cm^2	1	0.1
44	635-655 MANZANITA AVE, MANZANITA, OR	AREA 4	1st	INTERIOR	Sink	Metal	A	White	NEGATIVE	Intact	0.07	mg/cm^2	1	0.2
45	635-655 MANZANITA AVE, MANZANITA, OR	AREA 5	1st	INTERIOR	Sink	Metal	A	White	NEGATIVE	Intact	0.02	mg/cm^2	1	0.07
46	635-655 MANZANITA AVE, MANZANITA, OR	AREA 5	1st	INTERIOR	Door	Wood	C	White	POSITIVE	Intact	1.4	mg/cm^2	1	0.3
47	635-655 MANZANITA AVE, MANZANITA, OR	AREA 5	1st	INTERIOR	Door Jamb	Wood	C	White	POSITIVE	Intact	1.7	mg/cm^2	1	0.6

Hahn and Associates, Inc.
Regulated Building Materials Survey
Multiple Bldgs - 635-655 Manzanita Ave, Manzanita, OR
XRF Readings Table
August 24, 2022

READING NO	SITE	STRUCTURE	FLOOR	ROOM	COMPONENT	SUBSTRATE	SIDE	COLOR	RESULTS	CONDITION	PbC	UNITS	ACTION LEVEL	PbC Error
48	635-655 MANZANITA AVE, MANZANITA, OR	AREA 6	1st	INTERIOR	Built Ins	Wood	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.03
49	635-655 MANZANITA AVE, MANZANITA, OR	AREA 6	1st	INTERIOR	Wall	Drywall	C	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
50	635-655 MANZANITA AVE, MANZANITA, OR	AREA 6	1st	INTERIOR	Window	Wood	D	White	POSITIVE	Poor	1.4	mg/cm^2	1	0.4
51	NULL SAMPLE													
52	NULL SAMPLE													
53	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Window Trim	Wood	D	White	NEGATIVE	Intact	0.13	mg/cm^2	1	0.18
54	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Wall	Concrete	A	White	NEGATIVE	Intact	0.3	mg/cm^2	1	0.69
55	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Door Trim	Wood	A	White	NEGATIVE	Intact	0.13	mg/cm^2	1	0.19
56	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Door Trim	Wood	B	White	POSITIVE	Intact	1.7	mg/cm^2	1	0.5
57	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Door	Wood	B	White	NEGATIVE	Fair	0.05	mg/cm^2	1	0.14
58	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Door	Wood	C	Purple	NEGATIVE	Fair	0.04	mg/cm^2	1	0.12
59	635-655 MANZANITA AVE, MANZANITA, OR	AREA 7	1st	INTERIOR	Ceiling	Ceiling Tile	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
60	635-655 MANZANITA AVE, MANZANITA, OR	AREA 8	1st	INTERIOR	Ceiling	Plaster	Upper	Yellow	NEGATIVE	Intact	0.4	mg/cm^2	1	0.1
61	635-655 MANZANITA AVE, MANZANITA, OR	AREA 8	1st	INTERIOR	Wall	Plaster	A	White	NEGATIVE	Intact	0.6	mg/cm^2	1	0.1
62	635-655 MANZANITA AVE, MANZANITA, OR	AREA 8	1st	INTERIOR	Door Jamb	Wood	A	Blue	NEGATIVE	Intact	0.03	mg/cm^2	1	0.06
63	635-655 MANZANITA AVE, MANZANITA, OR	AREA 8	1st	INTERIOR	Baseboard	Wood	A	Brown	NEGATIVE	Intact	0.3	mg/cm^2	1	0.19
64	635-655 MANZANITA AVE, MANZANITA, OR	AREA 8	1st	INTERIOR	Cabinet Door	Wood	C	Brown	NEGATIVE	Intact	0.5	mg/cm^2	1	0.4
65	635-655 MANZANITA AVE, MANZANITA, OR	AREA 8	1st	INTERIOR	Window Sill	Wood	B	White	POSITIVE	Poor	1.1	mg/cm^2	1	0.1
66	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Door	Wood	D	White	NEGATIVE	Intact	0.01	mg/cm^2	1	0.06
67	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Door Trim	Wood	D	White	NEGATIVE	Intact	0.11	mg/cm^2	1	0.14
68	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Baseboard	Wood	D	White	NEGATIVE	Intact	0.08	mg/cm^2	1	0.1
69	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Cabinet Door	Wood	A	White	NEGATIVE	Intact	0.06	mg/cm^2	1	0.16
70	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Shelf	Wood	A	White	NEGATIVE	Intact	0.05	mg/cm^2	1	0.11
71	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Wall	Plaster	A	White	NEGATIVE	Intact	0.1	mg/cm^2	1	0.07
72	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Window Sill	Wood	B	White	POSITIVE	Intact	2.3	mg/cm^2	1	1.3
73	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Ceiling	Ceiling Tile	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
74	635-655 MANZANITA AVE, MANZANITA, OR	AREA 10	1st	INTERIOR	Wall Paneling	Wood	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
75	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Door Trim	Wood	D	Beige	NEGATIVE	Intact	0.08	mg/cm^2	1	0.18
76	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Wall	Drywall	B	White	NEGATIVE	Intact	0.28	mg/cm^2	1	0.21
77	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Baseboard	Wood	B	White	NEGATIVE	Intact	0.04	mg/cm^2	1	0.1
78	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Heater Cover	Metal	B	White	NEGATIVE	Intact	0.26	mg/cm^2	1	0.32
79	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Wall	Drywall	A	Green	NEGATIVE	Intact	0.02	mg/cm^2	1	0.04
80	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Cabinet Door	Wood	A	Brown	NEGATIVE	Intact	0.7	mg/cm^2	1	0.3
81	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Shelf	Wood	A	Brown	NEGATIVE	Intact	0.5	mg/cm^2	1	0.3
82	635-655 MANZANITA AVE, MANZANITA, OR	AREA 11	1st	INTERIOR	Ceiling	Ceiling Tile	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
83	635-655 MANZANITA AVE, MANZANITA, OR	AREA 12	1st	INTERIOR	Ceiling	Drywall	Upper	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
84	635-655 MANZANITA AVE, MANZANITA, OR	AREA 12	1st	INTERIOR	Wall	Drywall	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
85	635-655 MANZANITA AVE, MANZANITA, OR	AREA 12	1st	INTERIOR	Cabinet Door	Drywall	D	Stained	NEGATIVE	Intact	0	mg/cm^2	1	0.02
86	635-655 MANZANITA AVE, MANZANITA, OR	AREA 12	1st	INTERIOR	Door Trim	Wood	A	Stained	NEGATIVE	Intact	0	mg/cm^2	1	0.03
87	635-655 MANZANITA AVE, MANZANITA, OR	AREA 12	1st	INTERIOR	Door	Wood	A	Stained	NEGATIVE	Intact	0	mg/cm^2	1	0.02
88	635-655 MANZANITA AVE, MANZANITA, OR	AREA 12	1st	INTERIOR	Baseboard	Wood	B	Stained	NEGATIVE	Intact	0	mg/cm^2	1	0.02
89	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Door	Wood	B	White	NEGATIVE	Intact	0.01	mg/cm^2	1	0.06
90	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Door Jamb	Wood	B	White	POSITIVE	Intact	2.5	mg/cm^2	1	1.2
91	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Wall	Plaster	B	Blue	NEGATIVE	Intact	0.1	mg/cm^2	1	0.08
92	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Ceiling	Plaster	Upper	White	NEGATIVE	Intact	0.07	mg/cm^2	1	0.04
93	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Window	Wood	A	White	POSITIVE	Intact	1.6	mg/cm^2	1	0.6
94	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Window Trim	Wood	A	White	NEGATIVE	Intact	0.03	mg/cm^2	1	0.1

Hahn and Associates, Inc.
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Multiple Bldgs - 635-655 Manzanita Ave, Manzanita, OR
XRF Readings Table
August 24, 2022

READING NO	SITE	STRUCTURE	FLOOR	ROOM	COMPONENT	SUBSTRATE	SIDE	COLOR	RESULTS	CONDITION	PbC	UNITS	ACTION LEVEL	PbC Error
95	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Bathroom Stall	Wood	C	Blue	NEGATIVE	Intact	0.03	mg/cm^2	1	0.12
96	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Bathroom Stall	Wood	C	Blue	NEGATIVE	Intact	0.03	mg/cm^2	1	0.12
97	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Sink	Metal	A	White	NEGATIVE	Intact	0.02	mg/cm^2	1	0.13
98	635-655 MANZANITA AVE, MANZANITA, OR	AREA 13	1st	INTERIOR	Floor	Concrete	Lower	Gray	NEGATIVE	Intact	0	mg/cm^2	1	0.02
99	635-655 MANZANITA AVE, MANZANITA, OR	AREA 14	1st	INTERIOR	Wall	Plaster	A	Green	NEGATIVE	Intact	0.12	mg/cm^2	1	0.05
100	635-655 MANZANITA AVE, MANZANITA, OR	AREA 14	1st	INTERIOR	Shelf	Wood	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.03
101	635-655 MANZANITA AVE, MANZANITA, OR	AREA 14	1st	INTERIOR	Door	Wood	B	White	NEGATIVE	Fair	0.07	mg/cm^2	1	0.18
102	635-655 MANZANITA AVE, MANZANITA, OR	AREA 14	1st	INTERIOR	Sink	Metal	C	White	POSITIVE	Intact	8	mg/cm^2	1	6.2
103	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Sink	Metal	A	White	NEGATIVE	Intact	0.01	mg/cm^2	1	0.03
104	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Door	Wood	B	White	NEGATIVE	Intact	0	mg/cm^2	1	0.03
105	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Door Trim	Wood	B	White	NEGATIVE	Intact	0.18	mg/cm^2	1	0.72
106	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Bathroom Stall	Wood	A	White	NEGATIVE	Intact	0.05	mg/cm^2	1	0.25
107	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Bathroom Stall	Wood	A	White	NEGATIVE	Intact	0.01	mg/cm^2	1	0.05
108	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Window	Wood	C	White	POSITIVE	Poor	1.4	mg/cm^2	1	0.3
109	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Wall	Plaster	C	White	NEGATIVE	Poor	0.16	mg/cm^2	1	0.18
110	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Ceiling	Drywall	Upper	White	NEGATIVE	Poor	0.03	mg/cm^2	1	0.06
111	635-655 MANZANITA AVE, MANZANITA, OR	AREA 15	1st	INTERIOR	Floor	Concrete	Lower	Gray	NEGATIVE	Intact	0	mg/cm^2	1	0.02
112	635-655 MANZANITA AVE, MANZANITA, OR	AREA 16	1st	INTERIOR	Door	Wood	D	White	NEGATIVE	Intact	0.02	mg/cm^2	1	0.07
113	635-655 MANZANITA AVE, MANZANITA, OR	AREA 16	1st	INTERIOR	Garage Door	Metal	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.03
114	635-655 MANZANITA AVE, MANZANITA, OR	AREA 16	1st	INTERIOR	Siding	Wood	A	Brown	NEGATIVE	Intact	0.19	mg/cm^2	1	0.14
115	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Wall	Wood	B	Green	NEGATIVE	Poor	0.03	mg/cm^2	1	0.09
116	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Wall	Metal	B	Silver	NEGATIVE	Fair	0.03	mg/cm^2	1	0.05
117	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Structural Members	Metal	B	Silver	NEGATIVE	Fair	0.01	mg/cm^2	1	0.03
118	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Structural Members	Metal	B	Silver	NEGATIVE	Fair	0	mg/cm^2	1	0.04
119	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Structural Members	Metal	D	Silver	NEGATIVE	Fair	0.01	mg/cm^2	1	0.04
120	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Structural Members	Metal	D	Silver	NEGATIVE	Fair	0	mg/cm^2	1	0.03
121	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Garage Door	Metal	A	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
122	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Garage Door	Metal	A	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
123	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Door	Metal	A	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
124	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Wall	Wood	D	Green	NEGATIVE	Fair	0.02	mg/cm^2	1	0.05
125	635-655 MANZANITA AVE, MANZANITA, OR	AREA 17	1st	INTERIOR	Wall	Metal	D	Silvrr	NEGATIVE	Fair	0.04	mg/cm^2	1	0.12
126	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
127	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
128	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
129	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
130	CALIBRATION										1.69	cps		0
131	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
132	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
133	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
134	CALIBRATION								POSITIVE		1	mg/cm^2	1	0.1
135	CALIBRATION										1.42	cps		0
136	CALIBRATION								NEGATIVE		0.9	mg/cm^2	1	0.1
137	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
138	CALIBRATION								POSITIVE		1.2	mg/cm^2	1	0.2
139	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
140	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
141	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	Roof	EXTERIOR	Gutter	Metal	D	White	NEGATIVE	Fair	0	mg/cm^2	1	0.02

Hahn and Associates, Inc.
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August 24, 2022

READING NO	SITE	STRUCTURE	FLOOR	ROOM	COMPONENT	SUBSTRATE	SIDE	COLOR	RESULTS	CONDITION	PbC	UNITS	ACTION LEVEL	PbC Error
142	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	Roof	EXTERIOR	Fascia	Wood	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
143	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	Roof	EXTERIOR	Siding	Metal	D	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
144	NULL SAMPLE													
145	NULL SAMPLE													
146	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	Roof	EXTERIOR	Siding	Metal	B	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
147	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	A	Gray	NEGATIVE	Poor	0.01	mg/cm^2	1	0.04
148	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Window	Wood	A	White	NEGATIVE	Poor	0.4	mg/cm^2	1	0.5
149	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Window Sill	Wood	A	White	NEGATIVE	Poor	0.3	mg/cm^2	1	0.27
150	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door Trim	Wood	A	White	POSITIVE	Fair	1.5	mg/cm^2	1	0.4
151	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door	Wood	A	Brown	NEGATIVE	Poor	0.03	mg/cm^2	1	0.09
152	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Window	Wood	A	White	NEGATIVE	Poor	0	mg/cm^2	1	0.02
153	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	A	Gray	NEGATIVE	Fair	0	mg/cm^2	1	0.02
154	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	B	Gray	NEGATIVE	Poor	0	mg/cm^2	1	0.02
155	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Window covering	Wood	B	Gray	NEGATIVE	Poor	0	mg/cm^2	1	0.02
156	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Window	Wood	B	Gray	POSITIVE	Poor	7	mg/cm^2	1	4.9
157	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Downspout	Metal	B	Gray	NEGATIVE	Intact	0	mg/cm^2	1	0.02
158	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Gutter	Metal	B	White	NEGATIVE	Fair	0	mg/cm^2	1	0.02
159	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door	Wood	B	Gray	NEGATIVE	Poor	0.08	mg/cm^2	1	0.2
160	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door Trim	Wood	B	Gray	POSITIVE	Poor	4	mg/cm^2	1	2.9
161	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	B	Gray	NEGATIVE	Fair	0	mg/cm^2	1	0.02
162	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	B	Gray	POSITIVE	Fair	1.5	mg/cm^2	1	0.4
163	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Window	Wood	B	White	POSITIVE	Poor	3.1	mg/cm^2	1	1.9
164	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	C	Gray	NEGATIVE	Poor	0.28	mg/cm^2	1	0.56
165	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Siding	Wood	D	Gray	NEGATIVE	Poor	0.03	mg/cm^2	1	0.11
166	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door	Wood	D	White	NEGATIVE	Poor	0.01	mg/cm^2	1	0.03
167	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door Trim	Wood	D	White	POSITIVE	Poor	4.5	mg/cm^2	1	3.3
168	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Column	Wood	D	White	NEGATIVE	Poor	0	mg/cm^2	1	0.02
169	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Ceiling	Wood	D	White	NEGATIVE	Fair	0.5	mg/cm^2	1	0.4
170	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Ceiling	Wood	D	White	NEGATIVE	Fair	0.5	mg/cm^2	1	0.4
171	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Door	Wood	D	White	NEGATIVE	Fair	0.04	mg/cm^2	1	0.12
172	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 1	1st	EXTERIOR	Wall	Concrete	D	Green	NEGATIVE	Intact	0.01	mg/cm^2	1	0.03
173	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Siding	Wood	D	Gray	NEGATIVE	Fair	0.08	mg/cm^2	1	0.27
174	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Siding	Wood	A	Gray	NEGATIVE	Fair	0.09	mg/cm^2	1	0.3
175	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Window	Wood	A	White	POSITIVE	Intact	3.4	mg/cm^2	1	2.3
176	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Window Sill	Wood	A	White	POSITIVE	Intact	5.9	mg/cm^2	1	4.4
177	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Door	Wood	A	White	NEGATIVE	Poor	0	mg/cm^2	1	0.02
178	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Door Trim	Wood	A	White	NEGATIVE	Poor	0	mg/cm^2	1	0.02
179	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Column	Wood	A	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
180	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Corridor Ceiling	Wood	A	White	POSITIVE	Intact	1.9	mg/cm^2	1	0.9
181	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Corridor Ceiling	Wood	A	White	POSITIVE	Intact	2.2	mg/cm^2	1	1.2
182	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Siding	Wood	B	Gray	NEGATIVE	Intact	0.03	mg/cm^2	1	0.1
183	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Door	Wood	B	White	NEGATIVE	Fair	0.04	mg/cm^2	1	0.16
184	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Door Trim	Wood	B	White	POSITIVE	Fair	3.3	mg/cm^2	1	1.9
185	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Siding	Wood	C	Gray	NEGATIVE	Poor	0.3	mg/cm^2	1	0.53
186	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Downspout	Metal	C	Gray	NEGATIVE	Intact	0	mg/cm^2	1	0.02
187	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Gutter	Metal	C	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
188	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Door	Wood	C	White	NEGATIVE	Fair	0.04	mg/cm^2	1	0.08

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189	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 2	1st	EXTERIOR	Siding	Wood	C	Gray	NEGATIVE	Fair	0	mg/cm^2	1	0.02
190	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Wall	Concrete	A	Gray	NEGATIVE	Poor	0	mg/cm^2	1	0.02
191	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Fascia	Wood	A	Gray	NEGATIVE	Intact	0	mg/cm^2	1	0.02
192	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Siding	Wood	A	Gray	NEGATIVE	Intact	0	mg/cm^2	1	0.02
193	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Door Trim	Wood	A	White	NEGATIVE	Poor	0	mg/cm^2	1	0.02
194	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Door	Metal	A	White	NEGATIVE	Poor	0	mg/cm^2	1	0.02
195	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Garage Door	Metal	A	White	NEGATIVE	Fair	0	mg/cm^2	1	0.02
196	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Downspout	Metal	A	Gray	NEGATIVE	Fair	0	mg/cm^2	1	0.02
197	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Gutter	Metal	A	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
198	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Roof/Siding	Metal	B	SILVER	POSITIVE	Poor	1.3	mg/cm^2	1	0.2
199	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Door	Wood	B	White	NEGATIVE	Intact	0	mg/cm^2	1	0.02
200	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Door Trim	Wood	B	White	POSITIVE	Intact	1.2	mg/cm^2	1	0.2
201	NULL SAMPLE													
202	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Ceiling	Wood	B	White	NEGATIVE	Intact	0.9	mg/cm^2	1	0.1
203	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Siding	Wood	C	Gray	NEGATIVE	Poor	0.23	mg/cm^2	1	0.23
204	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 3	1st	EXTERIOR	Roof/'Siding	Metal	D	SILVER	POSITIVE	Poor	1.7	mg/cm^2	1	0.7
205	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Siding	Metal	B	White	NEGATIVE	Fair	0	mg/cm^2	1	0.03
206	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Downspout	Metal	B	White	NEGATIVE	Fair	0.01	mg/cm^2	1	0.06
207	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Gutter	Metal	B	White	NEGATIVE	Fair	< LOD	mg/cm^2	1	0
208	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Siding	Metal	C	White	NEGATIVE	Fair	0	mg/cm^2	1	0.02
209	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Siding	Metal	D	White	NEGATIVE	Fair	0	mg/cm^2	1	0.03
210	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Garage Door	Metal	D	White	NEGATIVE	Fair	0	mg/cm^2	1	0.02
211	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Fascia	Wood	D	White	NEGATIVE	Poor	0	mg/cm^2	1	0.03
212	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Door	Wood	D	White	NEGATIVE	Poor	0.03	mg/cm^2	1	0.07
213	635-655 MANZANITA AVE, MANZANITA, OR	BLDG 4	1st	EXTERIOR	Door Trim	Wood	D	White	NEGATIVE	Poor	0.01	mg/cm^2	1	0.03
214	CALIBRATION								NULL		1.1	mg/cm^2	1	1.4
215	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
216	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1
217	CALIBRATION								POSITIVE		1	mg/cm^2	1	0.1
218	CALIBRATION								POSITIVE		1.1	mg/cm^2	1	0.1

Appendix E:

XRF Performance Characteristic Sheets

Performance Characteristic Sheet

EFFECTIVE DATE: **September 24, 2004** **EDITION NO.: 1**

MANUFACTURER AND MODEL:

Make: *Niton LLC*
Tested Model: *XLp 300*
Source: ^{109}Cd
Note: This PCS is also applicable to the equivalent model variations indicated below, for the Lead-in-Paint K+L variable reading time mode, in the XLi and XLp series:

XLi 300A, XLi 301A, XLi 302A and XLi 303A.
XLp 300A, XLp 301A, XLp 302A and XLp 303A.
XLi 700A, XLi 701A, XLi 702A and XLi 703A.
XLp 700A, XLp 701A, XLp 702A, and XLp 703A.

Note: The XLi and XLp versions refer to the shape of the handle part of the instrument. The differences in the model numbers reflect other modes available, in addition to Lead-in-Paint modes. The manufacturer states that specifications for these instruments are identical for the source, detector, and detector electronics relative to the Lead-in-Paint mode.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Lead-in-Paint K+L variable reading time mode.

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive)

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION:

For XRF results using Lead-in-Paint K+L variable reading time mode, substrate correction is <u>not</u> needed for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

INCONCLUSIVE RANGE OR THRESHOLD:

K+L MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted in August 2004 on 133 testing combinations. The instruments that were used to perform the testing had new sources; one instrument's was installed in November 2003 with 40 mCi initial strength, and the other's was installed June 2004 with 40 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Substrate correction is not needed for brick, concrete, drywall, metal, plaster or wood when using Lead-in-Paint K+L variable reading time mode, the normal operating mode for these instruments. If substrate correction is desired, refer to Chapter 7 of the HUD Guidelines for guidance on correcting XRF results for substrate bias.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use the K+L variable time mode readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

For the Lead-in-Paint K+L variable reading time mode, the instrument continues to read until it is moved away from the testing surface, terminated by the user, or the instrument software indicates the reading is complete. The following table provides testing time information for this testing mode. The times have been adjusted for source decay, normalized to the initial source strengths as noted above. Source strength and type of substrate will affect actual testing times. At the time of testing, the instruments had source strengths of 26.6 and 36.6 mCi.

Testing Times Using K+L Reading Mode (Seconds)						
	All Data			Median for laboratory-measured lead levels (mg/cm^2)		
Substrate	25^{th} Percentile	Median	75^{th} Percentile	Pb < 0.25	0.25 ≤ Pb<1.0	1.0 ≤ Pb
Wood Drywall	4	11	19	11	15	11
Metal	4	12	18	9	12	14
Brick Concrete Plaster	8	16	22	15	18	16

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than or equal to the threshold, and negative if they are less than the threshold.

DOCUMENTATION:

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

Testing Protocol

Testing was conducted in accordance with Chapter 7 of the Guidelines for the Evaluation and Control of Lead-Based Paint (LBP) Hazards in Housing as published by HUD in October 1997. Exterior and interior XRF readings were taken on representative painted surfaces on each building component in each room equivalent, per the limited scope of work. The EPA and HUD definition of LBP is lead equal to or greater than 1.0 mg/ cm^2. All XRF readings below the regulatory threshold are considered negative and all readings at and above this level are considered positive. Since readings below 1.0 mg/ cm^2 can still pose health hazards, they are shown as <1%.

When establishing a sampling strategy, the following is used as a reference:

A "room" is an identifiable part of a residence, such as a room, foyer, staircase, hallway, or a house exterior or other exterior area. Exterior areas contain items such as play areas, painted swing sets, painted sandboxes, etc. Small closets or other similar areas adjoining rooms should not be considered as separate room equivalents unless they are obviously dissimilar from the adjoining room equivalent. However, walk-in closets should be considered as separate room equivalents.

Each room equivalent is made up of "components". Components may be located inside or outside a building. For example, components in a room could be its ceiling, floor, walls, a door and its casing, the window sash, and window casings. The substrate is the material underneath the paint of a component. Although many different substrates exist, HUD guidelines recommend classifying substrates into one of six types: (1) brick; (2) concrete; (3) drywall; (4) metal, (5) plaster; and (6) wood. If the true substrate under investigation is not one of the aforementioned types, HUD guidelines mandate the inspector/risk assessor to select the substrate type that most closely resembles one of the six defined substrate types. For substrates that are layered, such as plaster on concrete, the substrate directly beneath the painted surface is identified during a LBP inspection. A "testing combination" is characterized by the room equivalent, component, and substrate. Visible color may not be an accurate predictor of painting history and is not included in the definition of a testing combination. Components that are coated with paint, varnish, shellac, wallpaper, stain, or other coating should be considered as separate testing combinations. Certain building components that are adjacent to each other and not likely to have different painting histories can be grouped together into a single testing combination as follows:

- Window casings, stops, jambs, and aprons
- Interior window mullions and window sashes
- Interior window components may not be grouped with exterior window components
- Exterior window mullions and window sashes
- Door jambs, stops, transoms, casings, and other door parts
- Door stiles, rails, panels, mullions, and other door parts
- Baseboards and associated trim (such as quarter-round or other caps)
- Painted electrical sockets, switches, or plates can be grouped with the walls.

The "test location" is a specific area on a testing combination where the XRF was used to test for LBP.

De minimis levels for deteriorated LBP are defined follows: (1) For a component with a small surface area, such as window sills, or baseboards, 10% of the surface area; (2) For an interior component with a large surface area, such as an interior wall, 2 square feet of the surface area; and (3) For an exterior component with a large surface area, 20 square feet of the surface area.

According to the HUD guidelines, a lead reading by XRF of 1.0 mg/cm^2 or above is considered positive for the presence of LBP. An XRF reading below 1.0 mg/cm^2 is considered negative; however, a reading below 1.0 mg/cm^2 could still be harmful if proper precautions are not taken during activities that disturb

these paint films. If there are any inconclusive readings, a paint-chip sample may be collected for laboratory analysis. Laboratory analysis of samples collected will only be performed by an EPA approved National Lead Laboratory Accreditation Program (NLLAP) laboratory. There is no inconclusive range for laboratory measurements/results.

Only painted, stained, or varnished components of a dwelling are tested during a LBP evaluation. Wall "A" or "1" in each room is the wall where the front entrance door opening is located (or aligned with street). Going clockwise and facing outward Wall "A" or "1", Wall "B" or "2" will always be to your right, Wall "C" or "3" directly to the rear and Wall "D" or "4" to the left. Doors, windows and closets are designated as left, center or right depending on their location on the wall. When more than one window/door is on a wall, features are numbered left to right.

Assessment Logic

A LBP evaluation is performed by use of the following assessment logic. Any paint found to contain lead below the HUD standard of 1.0 mg/cm^2, regardless of condition, is not considered lead-based paint. Components having lead levels at or above the action level are visually assessed for condition and approximate surface area. The paint condition is placed into one of three categories using the risk assessor's professional judgment. These categories are: (1) intact (good), (2) fair and (3) deteriorated (poor), based on the HUD Guidelines for Evaluation and Control of LBP Hazards in Housing, Chapter 5: Risk Assessment [Table 5-3], June, 1995.

Categories of Paint Film Quality

	Total Area of Deteriorated Paint on Each Component		
Type of Building Component[1]	Intact	Fair[2]	Poor[3]
Exterior components with large surface areas	Entire surface is intact	Less than or equal to 10 square feet	More than 10 square feet
Interior components with large surface areas (walls, ceilings, floors, doors)	Entire surface is intact	Less than or equal to 10 square feet	More than 2 square feet
Interior components with small surface areas (window sills, baseboards, soffits, trim)	Entire surface is intact	Less than or equal to 10 percent of the total surface area of the component	More than 10 percent of the total square

Building component[1] in this table refers to each individual component or side of building, not the combined surface area of all similar components in a room (e.g., a wall with 1 square foot of deteriorated paint is in "fair" condition, even if the other three walls in a room are intact).

Fair[2] - Surfaces in "fair" condition should be repaired and/or monitored, but are not considered to be "lead-based paint hazards" as defined in Title X.

Poor[3] - Surfaces in "poor" condition are considered to be "lead-based paint hazards" as defined in Title X and should be addressed through abatement or interim controls.

Appendix F:

Resources

National

EPA - Mold Remediation in Schools and Commercial Buildings

ACGIH - Bioaerosols: Assessment and Control

NYC Department of Health and Mental Hygiene - Guidelines on Assessment and Remediation of Fungi in Indoor Environments

Indoor Air Quality Association - ANSI/IICRC S520 Standard and Reference Guide for Professional Mold Remediation

NIOSH/CDC - ALERT: Preventing Occupational Respiratory Disease From Exposures Caused by Dampness in Office Buildings, Schools, and Other Nonindustrial Buildings

International

WHO - Guidelines for Indoor Air Quality: Dampness and Mould Certifications & Accreditation

Appendix G:

Certifications/Accreditations/Licenses

000578
DKI CONSULTANTS LLC
16869 SW 65TH AVE 15
LAKE OSWEGO OR 97035

CONSTRUCTION CONTRACTORS BOARD
LEAD-BASED PAINT

LICENSE NUMBER: LBPI-223539

EXPIRATION DATE: 11/16/2022

ENTITY TYPE: Limited Liability

CONSTRUCTION CONTRACTORS BOARD
LEAD-BASED PAINT

DKI CONSULTANTS LLC

16869 SW 65TH AVE 15

LAKE OSWEGO OR 97035

⇦ ⇦ ⇦ ⇦
POCKET CARD
⇦ ⇦ ⇦ ⇦

fold and detach along perforation

⇩ ⇩ ⇩ ⇩ ⇩
LICENSE CARD
⇩ ⇩ ⇩ ⇩ ⇩

STATE OF OREGON
CONSTRUCTION CONTRACTORS BOARD
LEAD-BASED PAINT CERTIFICATE

This document certifies that:

DKI CONSULTANTS LLC
16869 SW 65TH AVE 15
LAKE OSWEGO OR 97035

is licensed in accordance with Oregon Law as Lead Inspection Contractor

LICENSE NUMBER: LBPI-223539

EXPIRATION DATE: 11/16/2022

ENTITY TYPE: Limited Liability Company

State of Oregon
Oregon Health Authority

DKI Consultants, LLC dba G2 Consultants

is certified by the Oregon Health Authority to conduct Lead-Based Paint Activities

Certification Number:	1844--LBP FIRM
Issuance Date:	7/1/2020
Date of Expiration:	7/1/2023

Oregon Health Authority

THIS IS TO CERTIFY THAT

NOAL KRAFT

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

ONLINE AHERA ASBESTOS INSPECTOR REFRESHER

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 09/10/2021

Course Location: Online

Certificate: IRO-21-1561A

CCB #SRA0615 4-Hr Training

4-Hour Online AHERA Inspector Refresher Training; AHERA is the Asbestos Hazard Emergency Response Act enacting Title II of Toxic Substance Control Act (TSCA)

Expiration Date: 09/10/2022

For verification of the authenticity of this certificate contact:
PBS Engineering and Environmental Inc.
4412 S Corbett Avenue
Portland, Oregon 97239
503.248.1939

Andy Fridley, Instructor

State of Oregon
Oregon Health Authority

Noal C. Kraft

is certified by the Oregon Health Authority to conduct Lead-Based Paint Activities

Risk Assessor

Certification Number:	1842--Indv--R
Issuance Date:	7/30/2020
Expiration Date:	7/30/2023

STATE OF OREGON
THE UNION
1859

Oregon Health Authority

000481
NOAL CHRISTOPHER KRAFT
16869 SW 65TH AVE #15
LAKE OSWEGO OR 97035

CONSTRUCTION CONTRACTORS BOARD
LEAD-BASED PAINT

LICENSE NUMBER: 9151842-RA

EXPIRATION DATE: 07/24/2023

ENTITY TYPE: N/A

CONSTRUCTION CONTRACTORS BOARD
LEAD-BASED PAINT

NOAL CHRISTOPHER KRAFT

16869 SW 65TH AVE #15

LAKE OSWEGO OR 97035

⇦ ⇦ ⇦ ⇦
POCKET CARD
⇦ ⇦ ⇦ ⇦

fold and detach along perforation

⇩ ⇩ ⇩ ⇩ ⇩
LICENSE CARD
⇩ ⇩ ⇩ ⇩ ⇩

STATE OF OREGON
CONSTRUCTION CONTRACTORS BOARD
LEAD-BASED PAINT CERTIFICATE

This document certifies that:

NOAL CHRISTOPHER KRAFT
16869 SW 65TH AVE #15
LAKE OSWEGO OR 97035

is licensed in accordance with Oregon Law as Lead Risk Assessor Contractor

LICENSE NUMBER: 9151842-RA

EXPIRATION DATE: 07/24/2023

ENTITY TYPE: N/A