

SECTION 02 82 00 ASBESTOS ABATEMENT SPECIFICATION

PART 1 - GENERAL

1.1 SUMMARY OF THE WORK

1.1.1 CONTRACT DOCUMENTS AND RELATED REQUIREMENTS

Drawings, general provisions of the contract, including general and supplementary conditions and other specifications, shall apply to the work of this section. The contract documents show the work to be done under the contract and related requirements and conditions impacting the project. Related requirements and conditions include applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial Owner occupancy during the work, coordination with other work and the phasing of the work. In the event the Asbestos Abatement Contractor discovers a conflict in the contract documents and/or requirements or codes, the conflict must be brought to the immediate attention of the Owner for resolution. Whenever there is a conflict or overlap in the requirements, the most stringent shall apply. Any actions taken by the Contractor without obtaining guidance from the Owner shall become the sole risk and responsibility of the Asbestos Abatement Contractor. All costs incurred due to such action are also the responsibility of the Asbestos Abatement Contractor.

1.1.2 EXTENT OF WORK

The Fayette County Public School (Owner) has acquired the residential property located at 2160 Versailles Road in Lexington, Kentucky. The abatement project involves an approximately 9,000 square foot three-story residential home (main house) and a 5,000 square foot two-story guest house/garage.

An asbestos inspection of the structures located at the site was conducted by Terracon Consultants, Inc. in August of 2023. The report can be found in **Attachment 6**. Regarding asbestos abatement for this project, the following is a summary of the extent of work to be completed. A detailed list of asbestos-containing materials (ACM) is included in **Attachment #5** to this specification. **The Abatement Contractor is solely responsible for determining their opinion of quantities of materials to be properly removed and disposed of for this project. Any quantities presented are for general information purposes only.**

Regarding this project, the Asbestos Abatement Contractor shall properly remove and dispose of the following materials, which have been identified to contain asbestos, in accordance with all applicable federal, state, and local asbestos regulations, as well as in accordance this specification document.

ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Category	Estimated Quantity
MAIN HOUSE				
Base Coat within Plaster Wall/Ceiling System	Main House: Throughout	0.50% Chrysotile by Point Count (PC)	Not Regulated (<1% by point count); However, Regulated by OSHA	16,000 Square Feet (SF)
White Duct Tape	Main House: Associated with Heating, Ventilating and Air-Conditioning (HVAC) Ductwork and Vents Throughout*	65% Chrysotile	Regulated Asbestos-Containing Material (RACM)	200 SF
White Exterior Door Caulking	Main House: Front Door	5% Chrysotile	Category II Non-Friable	2 SF or 1 Door
White Exterior Window Caulking	Main House: Associated with Windows	5% Chrysotile	Category II Non-Friable	40 SF or 20 Windows
White Exterior Window Glazing	Associated with Windows in Connecting Room Between Main House and East Addition	2.5% Chrysotile by PC	Category II Non-Friable	40 SF or 10 Windows
White Exterior Window Caulking	Associated with Windows in Connecting Room Between Main House and East Addition	5% Chrysotile	Category II Non-Friable	
Brown Exterior Door Caulking with Non-Asbestos-Containing White Door Caulking	Associated with Front Door of East Addition	5% Chrysotile	Category II Non-Friable	2 SF or 1 Door
Brown Exterior Window Caulking with Non-Asbestos-Containing White Window Caulking	Associated with Windows of East Addition	3% Chrysotile	Category II Non-Friable	30 SF or 15 Windows
White/Brown Exterior Window Caulking with Non-Asbestos-Containing Clear Window Caulking	Main House: Associated with Dining Room West Window	5% Chrysotile	Category II Non-Friable	2 SF or 1 Window
Gray Exterior Door Caulking	West Addition: West Entry Door and Kitchen Door	5% Chrysotile	Category II Non-Friable	4 SF or 2 Doors
Brown Exterior Window Caulking	West Addition: Associated with Windows	5% Chrysotile	Category II Non-Friable	26 SF or 13 Windows
GUEST HOUSE/GARAGE				
Vermiculite Fill Insulation	Garage/Guest House: Attic	<0.25% Tremolite by PC	Not Regulated (<1% by point count); However, Regulated by OSHA	2,500 SF

ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Category	Estimated Quantity
Joint Compound within the Drywall System	Garage/Guest House: Throughout 1st Floor of Guest House Area and Closet on Second Floor	Drywall: None Detected Joint Compound: 0.50% Chrysotile by PC, Composite: 0.05% Chrysotile by PC	Not Regulated (composite <1% by point count); However, Regulated by OSHA	~ 975 SF
White Exterior Window Caulking with Non-Asbestos-Containing Red Exterior Window Caulking	Garage/Guest House: Associated with exterior windows	2% Chrysotile	Category II Non-Friable	40 SF or 20 Windows
Glue Dots Behind Mirrors	Main House: Basement Workout Room	Assumed ACM >1%, Not Sampled Due to Safety & Irreparable Damage	Category II Non-Friable	50 SF

*Material was only observed in the connecting corridor between the main house and east addition. However, the material has been assumed to be throughout the main house hidden in the walls and crawl spaces. The Asbestos Abatement Contractor shall remove all asbestos containing white duct tape present.

Although the drywall system materials would not be considered as regulated under NESHAP given the composite result of <1% asbestos, the joint compound layer with >1% asbestos is considered as OSHA Class II Asbestos Work and shall be properly removed and disposed prior to building demolition.

Materials containing <1% asbestos are also not considered as regulated under NESHAP; however, they are regulated under OSHA, and shall be properly removed and disposed in accordance with applicable federal, state, and local asbestos regulations.

Currently, it's anticipated that electricity will be available at the site; however, no water or sanitary facilities will be available for use or connection at the site. The Asbestos Abatement Contractor will be responsible for providing sufficient water to conduct and successfully complete the abatement work, as water supply to the property has been disconnected. The Asbestos Abatement Contractor shall also be responsible for providing ample sanitary facilities (e.g., portalets) at the property for employees to utilize given that the water and sanitary utilities have been disconnected. The Abatement Contractor will be responsible for securing all equipment, materials, and waste at the end of each work shift (no open top dumpsters with unsecured waste shall be permitted).

The Asbestos Abatement Contractor is responsible for all apply for and retaining all necessary and required notifications, permits, and associated fees to successfully start and complete the abatement extent of work in compliance with all applicable federal, state, and local asbestos regulations, as well as in accordance with this specification document. This shall include the required 10-business day NESHAP notification prior to removal of RACM exceeding 160 square feet or 260 linear feet.

The Owner reserves the right to oversee/monitor asbestos abatement activities during the project, including retaining the services of a third-party consultant. The Owner and/or third-

party consultant (i.e., Owner's Representative) may make random, unscheduled site visits to the project site for observations of the work for compliance with applicable federal, state, and local asbestos regulations, as well as compliance with this specification document.

The Owner will retain the services of a third-party consultant (i.e., Owner's Representative) to conduct a final visual inspection and air clearance testing to confirm completion of indoor asbestos abatement activities. The Asbestos Abatement Contractor shall provide a minimum of 5-business day notice to the Owner of when the abatement project is expected to be completed so that the Owner may notify the third-party consultant of when to expect to be onsite to conduct the final visual inspection and air clearance activities. The post-abatement visual inspection must be acceptable to the third-party consultant, and indoor air clearance shall be less than 0.01 f/cc for each of 5 PCM samples before the Asbestos Abatement Contractor shall be permitted to remove critical barriers and asbestos abatement demarcations.

All other work shall be done during normal business hours (7:00 AM to 5:00 PM) Monday - Friday excluding Federal Holidays. The Asbestos Abatement Contractor must coordinate with the Owner (and General Contractor, if applicable) on all work and scheduling as necessary to facilitate the successful completion of the asbestos abatement project. Any change in the work schedule must be approved in writing by the Owner.

1.1.3 TASKS

The work tasks are summarized briefly as follows:

- A. Pre-abatement activities including pre-abatement meeting(s), inspection(s), notifications, permits, submittal approvals, work-site preparations, emergency procedures arrangements, and standard operating procedures for asbestos abatement work.
- B. Abatement activities including removal, clean-up and disposal of ACM waste, recordkeeping, security, monitoring, and inspections.
- C. Cleaning and decontamination activities including final visual inspection, air monitoring and certification of decontamination.

1.1.4 ABATEMENT CONTRACTOR USE OF PREMISES

- A. The Abatement Contractor and Abatement Contractor's personnel shall cooperate fully with the Owner and the Owner's representative (i.e., third-party consultant) to facilitate efficient use of buildings and areas within buildings. The Abatement Contractor shall perform the work in accordance with the specifications, drawings, phasing plan and in compliance with any/all applicable Federal, State and Local regulations and requirements.
- B. The Abatement Contractor shall use the existing facilities in the buildings strictly within the limits indicated in contract documents. Any variation from the arrangements in contract documents shall be secured in writing from the Owner through the pre-abatement plan of action.

1.2 QUANTITIES

The ACM quantities listed in Section 1.1.2, above, and in **Attachment #5** are for informational purposes only. The Abatement Contractor is solely responsible for determining their opinion of the actual quantities of the materials to be removed. If newly discovered suspect ACM (e.g. previously concealed) is discovered during the course of abatement and determined to actually be asbestos-containing as verified through sampling by the Owner's

Representative (certified asbestos inspector) and analysis by a NVLAP-accredited laboratory, the Abatement Contractor will be requested by the Owner or Owner's Representative to provide a detailed cost break-down, including an expected duration in hours, for removal of newly discovered ACM.

1.3 STOP ASBESTOS REMOVAL

If the Owner; their field representative; (the Safety Officer/Manager or their designee, or the third-party consultant (Owner's Representative) presents a verbal **Stop Asbestos Removal Order**, the Abatement Contractor/Personnel shall immediately stop all asbestos removal and adequately wet any exposed ACM. If a verbal Stop Asbestos Removal Order is issued, the Owner shall follow-up with a written order to the Abatement Contractor as soon as practicable. The Abatement Contractor shall not resume any asbestos removal activity until authorized to do so in writing by the Owner. A stop asbestos removal order may be issued at any time the Owner or his/her Representative determines abatement conditions/activities are not within specification, regulatory requirements or that an imminent hazard exists to human health or the environment. Work stoppage will continue until conditions have been corrected to the satisfaction of the Owner and his/her Representative. Standby time and costs for corrective actions will be borne by the Abatement Contractor, including the third-party consultant (Owner's Representative) time. The occurrence of any of the following events shall be reported immediately by the Abatement Contractor's competent person to the Owner or Owner's Representative using the most expeditious means (e.g., verbal, email, or telephonic), followed up with written notification to the Owner as soon as it is practical. The Abatement Contractor shall immediately stop asbestos removal/disturbance activities and initiate fiber reduction activities:

- A. Airborne PCM analysis results equal to or greater than 0.05 f/cc outside a regulated area;
- B. breach or break in any regulated area containment barrier(s);
- C. serious injury/death at the site;
- D. fire/safety emergency at the site;
- E. respiratory protection system failure;
- F. power failure or loss of wetting agent; or
- G. any visible emissions observed outside the regulated area.

1.4 DEFINITIONS

1.4.1 GENERAL

Definitions and explanations here are neither complete nor exclusive of all terms used in the contract documents but are general for the work to the extent they are not stated more explicitly in another element of the contract documents. Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated therein.

1.4.2 GLOSSARY

Abatement – Procedures to control fiber release from asbestos-containing materials. Includes removal, encapsulation, enclosure, demolition, and renovation activities related to asbestos containing materials (ACM).

Abatement Contractor (or Contractor) – Per this specification, shall mean a state-licensed, experienced, and qualified asbestos abatement contractor.

Aerosol – Solid or liquid particulate suspended in air.

Adequately wet – Sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed coming from the ACM, then that material has not been adequately wetted.

Aggressive method – Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact ACM.

Aggressive sampling – EPA AHERA defined clearance sampling method using air moving equipment such as fans and leaf blowers to aggressively disturb and maintain in the air residual fibers after abatement.

AHERA – Asbestos Hazard Emergency Response Act. Asbestos regulations for schools issued in 1987.

Aircell – Pipe or duct insulation made of corrugated cardboard which contains asbestos.

Air monitoring – The process of measuring the fiber content of a known volume of air collected over a specified period of time. The NIOSH 7400 Method, Issue 2 is used to determine the fiber levels in air. For personal samples and clearance air testing using Phase Contrast Microscopy (PCM) analysis. NIOSH Method 7402 can be used when it is necessary to confirm fibers counted by PCM as being asbestos. The AHERA TEM analysis may be used for background, area samples and clearance samples when required by this specification, or at the discretion of the Owner and/or Owner's Representative as appropriate.

Air sample filter – The filter used to collect fibers which are then counted. The filter is made of mixed cellulose ester membrane for PCM (Phase Contrast Microscopy) and polycarbonate for TEM (Transmission Electron Microscopy)

Amended water – Water to which a surfactant (wetting agent) has been added to increase the penetrating ability of the liquid.

Asbestos – Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated or altered. Asbestos also includes PACM, as defined below.

Asbestos Hazard Abatement Plan (AHAP) – Asbestos work procedures required to be submitted by the Abatement Contractor before work begins.

Asbestos-containing material (ACM) – Any material containing more than one percent of asbestos.

Asbestos contaminated elements (ACE) – Building elements such as ceilings, walls, lights, or ductwork that are contaminated with asbestos.

Asbestos-contaminated soil (ACS) – Soil found in the work area or in adjacent areas such as crawlspaces or pipe tunnels which is contaminated with asbestos-containing material debris and cannot be easily separated from the material.

Asbestos-containing waste (ACW) material – Asbestos-containing material or asbestos contaminated objects requiring disposal.

Asbestos Project Monitor – Some states require that any person conducting asbestos abatement clearance inspections and clearance air sampling be licensed as an asbestos project monitor.

Asbestos waste decontamination facility – A system consisting of drum/bag washing facilities and a temporary storage area for cleaned containers of asbestos waste. Used as the exit for waste and equipment leaving the regulated area. In an emergency, it may be used to evacuate personnel.

Authorized person – Any person authorized by the Owner, the Abatement Contractor, or Owner's Representative and required by work duties to be present in regulated areas.

Authorized visitor – Any person approved by the Owner; the Abatement Contractor; or any government agency representative having jurisdiction over the regulated area (e.g., OSHA, Federal and State EPA).

Barrier – Any surface that isolates the regulated area and inhibits fiber migration from the regulated area.

Containment Barrier – An airtight barrier consisting of walls, floors, and/or ceilings of sealed plastic sheeting which surrounds and seals the outer perimeter of the regulated area.

Critical Barrier – The barrier responsible for isolating the regulated area from adjacent spaces, typically constructed of plastic sheeting secured in place at openings such as doors, windows, or any other opening into the regulated area.

Primary Barrier – Plastic barriers placed over critical barriers and exposed directly to abatement work.

Secondary Barrier – Any additional plastic barriers used to isolate and provide protection from debris during abatement work.

Breathing zone – The hemisphere forward of the shoulders with a radius of about 150 – 225 mm (6 – 9 inches) from the worker's nose.

Bridging encapsulant – An encapsulant that forms a layer on the surface of the ACM.

Building/facility Owner – The legal entity, including a lessee, which exercises control over management and recordkeeping functions relating to a building and/or facility in which asbestos activities take place.

Bulk testing – The collection and analysis of suspect asbestos containing materials.

Certified Industrial Hygienist (CIH) – A person certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

Class I asbestos work – Activities involving the removal of Thermal System Insulation (TSI) and surfacing ACM and Presumed Asbestos Containing Material (PACM).

Class II asbestos work – Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic.

Clean room/Changing room – An uncontaminated room having facilities for the storage of employee's street clothing and uncontaminated materials and equipment.

Clearance sample – The final air sample taken after all asbestos work has been done and visually inspected. Performed by the Owner's Representative (professional industrial hygiene consultant).

Closely resemble – The major workplace conditions which have contributed to the levels of historic asbestos exposure, are no more protective than conditions of the current workplace.

Competent person – In addition to the definition in 29 CFR 1926.32(f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f); in addition, for Class I and II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisor.

Count – Refers to the fiber count or the average number of fibers greater than five microns in length with a length-to-width (aspect) ratio of at least 3 to 1, per cubic centimeter of air.

Crawl space – An area which can be found either in or adjacent to the work area. This area has limited access and egress and may contain asbestos materials and/or asbestos contaminated soil.

Decontamination area/unit – An enclosed area adjacent to and connected to the regulated area and consisting of an equipment room, shower room, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

Demolition – The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

Disposal bag – Typically 6 mil thick sift-proof, dustproof, leak-tight container used to package and transport asbestos waste from regulated areas to the approved landfill. Each bag/container must be labeled/marked in accordance with EPA, OSHA and DOT requirements.

Disturbance – Activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. Disturbance includes cutting away small amounts of ACM or PACM, no greater than the amount that can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or disposal bag which shall not exceed 60 inches in length or width.

Drum – A rigid, impermeable container made of cardboard fiber, plastic, or metal which can be sealed in order to be sift-proof, dustproof, and leak-tight.

Employee exposure – The exposure to airborne asbestos that would occur if the employee were not wearing respiratory protection equipment.

Encapsulant – A material that surrounds or embeds asbestos fibers in an adhesive matrix and prevents the release of fibers.

Encapsulation – Treating ACM with an encapsulant.

Enclosure – The construction of an air tight, impermeable, permanent barrier around ACM to control the release of asbestos fibers from the material and also eliminate access to the material.

Equipment room – A contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

Fiber – A particulate form of asbestos, 5 microns or longer, with a length to width (aspect) ratio of at least 3 to 1.

Fibers per cubic centimeter (f/cc) – Abbreviation for fibers per cubic centimeter, used to describe the level of asbestos fibers in air.

Filter – Media used in respirators, vacuums, or other machines to remove particulate from air.

Firestopping – Material used to close the open parts of a structure in order to prevent a fire from spreading.

Friable asbestos containing material – Any material containing more than one (1) percent or asbestos as determined using the method specified in appendix A, Subpart F, 40 CFR 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Glovebag – Not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which materials and tools may be handled.

High efficiency particulate air (HEPA) filter – An ASHRAE MERV 17 filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

HEPA vacuum – Vacuum collection equipment equipped with a HEPA filter system capable of collecting and retaining asbestos fibers.

Homogeneous area – An area of surfacing, thermal system insulation or miscellaneous ACM that is uniform in color, texture and date of application.

HVAC – Heating, Ventilation and Air Conditioning

Industrial hygienist (IH) – A professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards. Meets definition requirements of the American Industrial Hygiene Association (AIHA).

Industrial hygienist technician (IH Technician; Owner's Representative) – A person working under the direction of the Owner who has special training, experience, certifications and licenses required for the industrial hygiene work assigned. Some states require that an industrial hygienist technician conducting asbestos abatement clearance inspection and clearance air sampling be licensed as an asbestos project monitor.

Intact – The ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

Lockdown – Applying encapsulant, after a final visual inspection, on all abated surfaces at the conclusion of ACM removal prior to removal of critical barriers.

National Emission Standards for Hazardous Air Pollutants (NESHAP) – EPA's rule to control emissions of asbestos to the environment (40 CFR Part 61, Subpart M).

Negative initial exposure assessment – A demonstration by the employer which complies with the criteria in 29 CFR 1926.1101 (f)(2)(iii), that employee exposure during an operation is expected to be consistently below the PELs.

Negative pressure – Air pressure, which is lower than the surrounding area, created by exhausting air from a sealed regulated area through HEPA equipped filtration units. OSHA requires maintaining -0.02" water column gauge inside the negative pressure enclosure.

Negative pressure respirator – A respirator in which the air pressure inside the facepiece is negative during inhalation relative to the air pressure outside the respirator facepiece.

Non-friable ACM – Material that contains more than 1 percent asbestos but cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Organic vapor cartridge – The type of cartridge used on air purifying respirators to remove organic vapor hazardous air contaminants.

Outside air – The air outside buildings and structures, including, but not limited to, the air under a bridge or in an open ferry dock.

Owner/operator – Any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

Owner's representative – a third-party industrial hygiene consultant hired by the Owner to oversee abatement work for compliance with applicable federal and state asbestos regulations and this specification and conduct final visual inspection and final air clearance testing.

Penetrating encapsulant - Encapsulant that is absorbed into the ACM matrix without leaving a surface layer.

Personal protective equipment (PPE) – equipment designed to protect user from injury and/or specific job hazard. Such equipment may include protective clothing, hard hats, safety glasses, and respirators.

Personal sampling/monitoring - Representative air samples obtained in the breathing zone for one or workers within the regulated area using a filter cassette and a calibrated air sampling pump to determine asbestos exposure.

Permissible exposure limit (PEL) - The level of exposure OSHA allows for an 8 hour time weighted average. For asbestos fibers, the eight (8) hour time weighted average PEL is 0.1 fibers per cubic centimeter (0.1 f/cc) of air and the 30-minute Excursion Limit is 1.0 fibers per cubic centimeter (1 f/cc).

Pipe tunnel – An area, typically located adjacent to mechanical spaces or boiler rooms in which the pipes servicing the heating system in the building are routed to allow the pipes

to access heating elements. These areas may contain asbestos pipe insulation, asbestos fittings, or asbestos-contaminated soil.

Polarized light microscopy (PLM) - Light microscopy using dispersion staining techniques and refractive indices to identify and quantify the type(s) of asbestos present in a bulk sample.

Polyethylene sheeting - Strong plastic barrier material 4 to 6 mils thick, semi-transparent, flame retardant per NFPA 241.

Positive/negative fit check - A method of verifying the seal of a facepiece respirator by temporarily occluding the filters and breathing in (inhaling) and then temporarily occluding the exhalation valve and breathing out (exhaling) while checking for inward or outward leakage of the respirator respectively.

Presumed ACM (PACM) - Thermal system insulation, surfacing, and flooring material installed in buildings prior to 1981. If the building Owner has actual knowledge or should have known through the exercise of due diligence that other materials are ACM, they too must be treated as PACM. The designation of PACM may be rebutted pursuant to 29 CFR 1926.1101 (b).

Professional IH - An IH who meets the definition requirements of AIHA; meets the definition requirements of OSHA as a "Competent Person" at 29 CFR 1926.1101 (b); has completed two specialized EPA approved courses on management and supervision of asbestos abatement projects; has formal training in respiratory protection and waste disposal; and has a minimum of four projects of similar complexity with this project of which at least three projects serving as the supervisory IH.

Project designer - A person who has successfully completed the training requirements for an asbestos abatement project designer as required by 40 CFR 763 Appendix C, Part I; (B)(5).

Assigned Protection factor - A value assigned by OSHA/NIOSH to indicate the expected protection provided by each respirator class, when the respirator is properly selected and worn correctly. The number indicates the reduction of exposure level from outside to inside the respirator facepiece.

Qualitative fit test (QLFT) - A fit test using a challenge material that can be sensed by the wearer if leakage in the respirator occurs.

Quantitative fit test (QNFT) - A fit test using a challenge material which is quantified outside and inside the respirator thus allowing the determination of the actual fit factor.

Regulated area - An area established by the employer to demarcate where Class I, II, III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work may accumulate; and a work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed the PEL.

Regulated ACM (RACM) - Friable ACM; Category I non-friable ACM that has become friable; Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or; Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation operation.

Removal - All operations where ACM, PACM and/or RACM is taken out or stripped from structures or substrates, including demolition operations.

Renovation - Altering a facility or one or more facility components in any way, including the stripping or removal of asbestos from a facility component which does not involve demolition activity.

Repair - Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.

Shower room - The portion of the PDF where personnel shower before leaving the regulated area.

Supplied air respirator (SAR) - A respiratory protection system that supplies minimum Grade D respirable air per ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989.

Surfacing ACM - A material containing more than 1 percent asbestos that is sprayed, troweled on or otherwise applied to surfaces for acoustical, fireproofing and other purposes.

Surfactant - A chemical added to water to decrease water's surface tension thus making it more penetrating into ACM.

Thermal system ACM - A material containing more than 1 percent asbestos applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.

Transmission electron microscopy (TEM) - A microscopy method that can identify and count asbestos fibers.

Visible emissions - Any emissions, which are visually detectable without the aid of instruments, coming from ACM/PACM/RACM/ACS or ACM waste material.

Waste/Equipment decontamination facility (W/EDF) – The area in which equipment is decontaminated before removal from the regulated area.

Waste generator - Any Owner or operator whose act or process produces asbestos-containing waste material.

Waste shipment record - The shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Wet cleaning - The process of thoroughly eliminating, by wet methods, any asbestos contamination from surfaces or objects.

1.4.3 REFERENCED STANDARDS ORGANIZATIONS

The following acronyms or abbreviations as referenced in contract/ specification documents are defined to mean the associated names. Names and addresses may be subject to change.

- A. AIHA American Industrial Hygiene Association
2700 Prosperity Avenue, Suite 250
Fairfax, VA 22031
703-849-8888

- B. ANSI American National Standards Institute
1430 Broadway
New York, NY 10018
212-354-3300

- C. ASTM American Society for Testing and Materials
1916 Race St.
Philadelphia, PA 19103
215-299-5400

- D. CFR Code of Federal Regulations
Government Printing Office
Washington, DC 20420

- E. CGA Compressed Gas Association
1235 Jefferson Davis Highway
Arlington, VA 22202
703-979-0900
- F. CS Commercial Standard of the National Institute of Standards and Technology (NIST)
U. S. Department of Commerce
Government Printing Office
Washington, DC 20420
- G. EPA Environmental Protection Agency
401 M St., SW
Washington, DC 20460
202-382-3949
- H. MIL-STD Military Standards/Standardization Division
Office of the Assistant Secretary of Defense
Washington, DC 20420
- I. NIST National Institute for Standards and Technology
U. S. Department of Commerce
Gaithersburg, MD 20234
301-921-1000
- J. NEC National Electrical Code (by NFPA)
- K. NEMA National Electrical Manufacturer's Association
2101 L Street, NW
Washington, DC 20037
- L. NFPA National Fire Protection Association
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
800-344-3555
- M. NIOSH National Institutes for Occupational Safety and Health
4676 Columbia Parkway
Cincinnati, OH 45226
513-533-8236
- N. OSHA Occupational Safety and Health Administration
U.S. Department of Labor
Government Printing Office
Washington, DC 20402
- O. UL Underwriters Laboratory
333 Pfingsten Rd.

Northbrook, IL 60062
312-272-8800

1.5 APPLICABLE CODES AND REGULATIONS

1.5.1 GENERAL APPLICABILITY OF CODES, REGULATIONS, AND STANDARDS

- A. All work under this contract shall be done in strict accordance with all applicable Federal, State, and local regulations, standards and codes governing asbestos abatement, and any other trade work done in conjunction with the abatement. All applicable codes, regulations and standards are adopted into this specification and will have the same force and effect as this specification.
- B. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirement(s) shall be utilized.
- C. Copies of all standards, regulations, codes, and other applicable documents, including this specification and those listed in Section 1.5 shall be available at the worksite.

1.5.2 CONTRACTOR RESPONSIBILITY

The Asbestos Abatement Contractor (Contractor) shall assume full responsibility and liability for compliance with all applicable Federal, State and Local regulations related to any and all aspects of the asbestos abatement project. The Contractor is responsible for providing and maintaining training, accreditations, medical exams, medical records, personal protective equipment (PPE) including respiratory protection including respirator fit testing, as required by applicable Federal, State and Local regulations. The Contractor shall hold the Owner and third-party consultant (Owner's Representative) harmless for any Contractor's failure to comply with any applicable work, packaging, transporting, disposal, safety, health, or environmental requirement on the part of himself, his employees, or his subcontractors. The Contractor will incur all costs of the third-party consultant (Owner's Representative), including all sampling/analytical costs to assure compliance with OSHA/EPA/State requirements related to failure to comply with the regulations applicable to the work.

1.5.3 FEDERAL REQUIREMENTS

Federal requirements which govern some aspect of asbestos abatement include, but are not limited to, the following regulations.

- A. Occupational Safety and Health Administration (**OSHA**)
 - 1. Title 29 CFR 1926.1101 - Construction Standard for Asbestos
 - 2. Title 29 CFR 1910.132 - Personal Protective Equipment
 - 3. Title 29 CFR 1910.134 - Respiratory Protection
 - 4. Title 29 CFR 1926 - Construction Industry Standards
 - 5. Title 29 CFR 1910.20 - Access to Employee Exposure and Medical Records
 - 6. Title 29 CFR 1910.1200 - Hazard Communication
 - 7. Title 29 CFR 1910.151 - Medical and First Aid
- B. Environmental Protection Agency (EPA)
 - 1. 40 CFR 61 Subpart A and M (Revised Subpart B) - National Emission Standard for Hazardous Air Pollutants - Asbestos.
 - 2. 40 CFR 763.80 - Asbestos Hazard Emergency Response Act (AHERA)
- C. Department of Transportation (DOT)
 - Title 49 CFR 100 - 185 – Transportation

1.5.4 STATE REQUIREMENTS

State requirements that apply to the asbestos abatement work, disposal, clearance, etc., include, but are not limited to, the following:

- 401 Kentucky Administrative Regulation (KAR) 58:025
- 401 KAR 58:040
- 401 KAR 58:005

Kentucky Division for Air Quality, 200 Fair Oaks Lane, 1st Floor, Frankfort, KY 40601.

Kentucky Division for Air Quality, Frankfort Regional Office, 300 Sower Blvd., 1st Floor, Frankfort, KY 40601, Attention Mr. Eli Caudill (Phone Number 502-564-3358).

Kentucky Division of Waste Management, Solid Waste Branch, 200 Fair Oaks Lane, 2nd Floor, Frankfort, KY 40601, Phone Number 502-564-6716.

1.5.5 LOCAL REQUIREMENTS

If local requirements are more stringent than federal or state standards, the local standards are to be followed.

1.5.6 STANDARDS

- A. Standards which govern asbestos abatement activities include, but are not limited to, the following:
 - 1. American National Standards Institute (ANSI) Z9.2-79 – Fundamentals Governing the Design and Operation of Local Exhaust Systems and ANSI Z88.2 – Practices for Respiratory Protection.
 - 2. Underwriters Laboratories (UL)586-90 – UL Standard for Safety of HEPA filter Units, 7th Edition.
- B. Standards which govern encapsulation work include, but are not limited to, the following:
 - 1. American Society for Testing and Materials (ASTM)
- C. Standards which govern the fire and safety concerns in abatement work include, but are not limited to, the following:
 - 1. National Fire Protection Association (NFPA) 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.
 - 2. NFPA 701 – Standard Methods for Fire Tests for Flame Resistant Textiles and Film.
 - 3. NFPA 101 – Life Safety Code

1.5.7 EPA GUIDANCE DOCUMENTS

- A. EPA guidance documents which discuss asbestos abatement work activities are listed below. These documents are made part of this section by reference. EPA publications can be ordered from (800) 424-9065.
- B. Guidance for Controlling ACM in Buildings (Purple Book) EPA 560/5-85-024
- C. Asbestos Waste Management Guidance EPA 530-SW-85-007
- D. A Guide to Respiratory Protection for the Asbestos Abatement Industry EPA-560-OPTS-86-001
- E. Guide to Managing Asbestos in Place (Green Book) TS 799 20T July 1990

1.5.8 NOTICES

- A. State and Local agencies: Send written notification as required by state and local regulations including the local fire department prior to beginning any work on ACM.
- B. Copies of notifications shall be submitted to the Owner for the facility's records at the same time frame notification is given to EPA, State, and Local authorities.

1.5.9 PERMITS/LICENSES

- A. The Abatement Contractor shall apply for and have all required permits and licenses to perform asbestos abatement work as required by Federal, State, and Local regulations. This includes the required 10-day NESHAP notification prior to the start of RACM abatement.

1.5.10 POSTING AND FILING OF REGULATIONS

- A. Maintain two (2) copies of applicable federal, state, and local regulations. Post one copy of each at the regulated area where workers will have daily access to the regulations and keep another copy in the Abatement Contractor's onsite office.

1.5.11 OWNER RESPONSIBILITIES

Prior to commencement of work:

- A. Notify any occupants adjacent to regulated areas of project dates and requirements for relocation, if needed. Arrangements must be made prior to starting work for relocation of desks, files, equipment, and personal possessions to avoid unauthorized access into the regulated area. **Note: Notification of adjacent personnel is required by OSHA in 29 CFR 1926.1101 (k) to prevent unnecessary or unauthorized access to the regulated area.**
- B. Submit to the Abatement Contractor results of any background air sampling, if available; including location of samples, person who collected the samples, equipment utilized, calibration data and method of analysis. During abatement, submit to the Abatement Contractor, results of bulk material analysis and air sampling data collected during the course of the abatement. This information shall not release the Abatement Contractor from any responsibility for OSHA compliance.

1.5.12 SITE SECURITY

- A. Regulated area access is to be restricted only to authorized, trained/accredited and protected personnel. These may include the Abatement Contractor's employees, employees of Subcontractors, Owner employees and representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to commencing the project and be posted at entry to the regulated work area.
- B. Entry into the regulated area by unauthorized individuals shall be reported immediately to the Competent Person by anyone observing the entry. The Competent person shall immediately notify the Owner.
- C. A log book shall be maintained at the entry to the regulated work area. Anyone who enters the regulated area must record their name, affiliation, time in, and time out for each entry.
- D. The Abatement Contractor's Competent Person shall control site security during abatement operations in order to isolate work in progress and protect adjacent personnel.

- F. The Abatement Contractor will have the Owner's assistance in notifying adjacent personnel of the presence, location and quantity of ACM in the regulated area and enforcement of restricted access by the Owner's employees.
- G. The regulated area shall be locked during non-working hours and secured by Owner or Competent Person.

1.5.13 EMERGENCY ACTION PLAN AND ARRANGEMENTS

- A. An Emergency Action Plan shall be developed by prior to commencing abatement activities and shall be agreed to by the Abatement Contractor and the Owner. The Plan shall meet the requirements of 29 CFR 1910.38 (a);(b).
- B. Emergency procedures shall be in written form and prominently posted in the clean room and equipment room of the decontamination unit. Everyone, prior to entering the regulated area, must read and sign these procedures to acknowledge understanding of the regulated area layout, location of emergency exits and emergency procedures.
- C. Emergency planning shall include written notification of police, fire, and emergency medical personnel of planned abatement activities; work schedule; layout of regulated area; and access to the regulated area, particularly barriers that may affect response capabilities.
- D. Emergency planning shall include consideration of fire, explosion, hazardous atmospheres, electrical hazards, slips/trips and falls, confined spaces, and heat stress illness. Written procedures for response to emergency situations shall be developed and employee training in procedures shall be provided.
- E. Employees shall be trained in regulated area/site evacuation procedures in the event of workplace emergencies.
 - 1. For non-life-threatening situations – employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the regulated area to obtain proper medical treatment.
 - 2. For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove them from the regulated area, and secure proper medical treatment.
- F. Telephone numbers of any/all emergency response personnel shall be prominently posted at the entry to the regulated work area, along with the location of the nearest telephone.
- G. The Abatement Contractor shall provide verification of first aid/CPR training for personnel responsible for providing first aid/CPR. OSHA requires medical assistance within 3-4 minutes of a life-threatening injury/illness. Bloodborne Pathogen training shall also be verified for those personnel required to provide first aid/CPR.
- H. The Emergency Action Plan shall provide for a Contingency Plan in the event that an incident occurs that may require the modification of the standard operating procedures during abatement. Such incidents include, but are not limited to, fire; accident; power failure; negative pressure failure; and supplied air system failure. The Abatement Contractor shall detail procedures to be followed in the event of an incident assuring that asbestos abatement work is stopped and wetting is continued until correction of the problem.

1.5.14 PRE-CONSTRUCTION MEETING

Prior to commencing the work, the Abatement Contractor shall meet with the Owner and/or Owner's Representative to present and review, as appropriate, the items following this paragraph. The Contractor's Competent Person(s) who will be on-site shall participate in

the pre-start meeting. The pre-start meeting is to discuss and determine procedures to be used during the project.

- A. Proof of Abatement Contractor licensing by the Commonwealth of Kentucky.
- B. Proof the Competent Person is trained and accredited and approved for working in this State. Verification of the experience of the Competent Person shall also be presented.
- C. A list of all workers who will participate in the project, including experience and verification of training and accreditation.
- D. A list of and verification of training for all personnel who have current first-aid/CPR training. A minimum of one person per shift must have adequate training.
- E. Current medical written opinions for all personnel working on-site meeting the requirements of 29 CFR 1926.1101(m).
- F. Current fit-tests for all personnel wearing respirators on-site meeting the requirements of 29 CFR 1926.1101(h) and Appendix C.
- G. A copy of the Abatement Contractor's Asbestos Hazard Abatement Plan. In these procedures, the following information must be detailed, specific for this project.
 - 1. Regulated area preparation procedures;
 - 2. Notification requirements procedure of Abatement Contractor as required in 29 CFR 1926.1101(d);
 - 3. If required, decontamination area set-up/layout and decontamination procedures for employees;
 - 4. Abatement methods/procedures and equipment to be used; and
 - 5. Personal protective equipment to be used.
- H. At this meeting, the Abatement Contractor shall provide all submittals as required.
- I. Procedures for handling, packaging and disposal of asbestos waste.
- J. Emergency Action Plan and Contingency Plan Procedures.

1.6 PROJECT COORDINATION

The following are the minimum administrative and supervisory personnel necessary for coordination of the work.

1.6.1 PERSONNEL

- A. Administrative and supervisory personnel shall consist of a qualified Competent Person(s) as defined by OSHA in the Construction Standards and the Asbestos Construction Standard. These employees are the Abatement Contractor's representatives responsible for compliance with these specifications and all other applicable requirements.
- B. Non-supervisory personnel shall consist of an adequate number of qualified personnel to meet the schedule requirements of the project. Personnel shall meet required qualifications. Personnel utilized on-site shall be pre-approved by the Owner and/or Owner's Representative. A request for approval shall be submitted for any person to be employed during the project giving the person's name; social security number; qualifications; accreditation card with color picture; Certificate of Worker's Acknowledgment; and Affidavit of Medical Surveillance and Respiratory Protection and current Respirator Fit Test.
- C. Minimum qualifications for the Abatement Contractor and assigned personnel are:
 - 1. The Abatement Contractor has conducted within the last three (3) years, three (3) projects of similar complexity and dollar value as this project; has not been cited and penalized for serious violations of federal (and state as applicable) EPA and OSHA asbestos regulations in the past three (3) years; has adequate liability/occurrence

- insurance for asbestos work as required by the state; is licensed in applicable states; has adequate and qualified personnel available to complete the work; has comprehensive standard operating procedures for asbestos work; and has adequate materials, equipment and supplies to perform the work.
2. The Competent Person has three (3) years of abatement experience of which two (2) years were as the Competent Person on the project; meets the OSHA definition of a Competent Person; has been the Competent Person on two (2) projects of similar size and complexity as this project within the past three (3) years; has completed EPA AHERA/OSHA/State/Local training requirements/accreditation(s) and refreshers; and has all required OSHA documentation related to medical and respiratory protection.
 3. The Abatement Personnel shall have completed the EPA AHERA/OSHA abatement worker course; have training on the standard operating procedures of the Abatement Contractor; has applicable medical and respiratory protection documentation; and has certificate of training/current refresher and State accreditation/license.

All personnel shall be in compliance with OSHA construction safety training as applicable and submit certification.

1.7 RESPIRATORY PROTECTION

1.7.1 GENERAL – RESPIRATORY PROTECTION PROGRAM

The Abatement Contractor shall develop and implement a written Respiratory Protection Program (RPP) which is in compliance with the January 8, 1998 OSHA requirements found at 29 CFR 1926.1101 and 29 CFR 1910.Subpart I;134. ANSI Standard Z88.2-1992 provides excellent guidance for developing a respiratory protection program. All respirators used must be NIOSH approved for asbestos abatement activities. The written RPP shall, at a minimum, contain the basic requirements found at 29 CFR 1910.134 I(1)– i – i) – Respiratory Protection Program.

1.7.2 RESPIRATORY PROTECTION PROGRAM COORDINATOR

The Respiratory Protection Program Coordinator (RPPC) must be identified and shall have three (3) years of experience coordinating RPP of similar size and complexity. The RPPC must submit a signed statement attesting to the fact that the program meets the above requirements.

1.7.3 SELECTION AND USE OF RESPIRATORS

The procedure for the selection and use of respirators must be submitted to the Owner as part of the Abatement Contractor's qualifications. The procedure must be written clearly enough for workers to understand. A copy of the Respiratory Protection Program must be available at the entry to the regulated work area for reference by employees or authorized visitors.

1.7.4 MINIMUM RESPIRATORY PROTECTION

Minimum respiratory protection shall be a half face, HEPA filtered, air purifying respirator when fiber levels are maintained consistently at or below 0.1 f/cc based on an 8-hour time weighted average. A higher level of respiratory protection may be provided or required, depending on fiber levels. Respirator selection shall meet the requirements of 29 CFR 1926.1101 (h); Table 1, except as indicated in this paragraph. Abatement personnel must have a respirator for their exclusive use.

1.7.5 MEDICAL WRITTEN OPINION

No employee shall be allowed to wear a respirator unless a physician or other licensed health care professional has provided a written determination that they are medically qualified to wear the class of respirator to be used on the project while wearing whole body impermeable garments and subjected to heat or cold stress

1.7.6 RESPIRATOR FIT TEST

All personnel wearing respirators shall have a current quantitative fit test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Fit tests shall be done for PAPRs which have been put into a failure mode.

1.7.7 RESPIRATOR FIT CHECK

The Competent Person shall assure that the positive/negative pressure user seal check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective facepiece to face seal as evidenced by failure of a user seal check shall preclude that person from wearing a respirator inside the regulated area until resolution of the problem.

1.7.8 MAINTENANCE AND CARE OF RESPIRATORS

The Respiratory Protection Program Coordinator shall submit evidence and documentation showing compliance with 29 CFR 1910.134 (h) Maintenance and care of respirators.

1.8 WORKER PROTECTION

1.8.1 TRAINING OF ABATEMENT PERSONNEL

Prior to beginning any abatement activity, all personnel shall be trained in accordance with OSHA 29 CFR 1926.1101 (k)(9) and any additional State/Local requirements. Training must include, at a minimum, the elements listed at 29 CFR 1926.1101 (k)(9)(viii). Training shall have been conducted by a third party, EPA/State approved trainer meeting the requirements of EPA 40 CFR 763 Appendix C (AHERA MAP). Initial training certificates and current refresher and accreditation proof must be submitted for each person working at the site.

1.8.2 MEDICAL EXAMINATIONS

Medical examinations meeting the requirements of 29 CFR 1926.1101 (m) shall be provided for all personnel working in the regulated area, regardless of exposure levels. A current physician's written opinion as required by 29 CFR 1926.1101 (m)(4) shall be provided for each person and shall include in the medical opinion the person has been evaluated for working in a heat and cold stress environment while wearing personal protective equipment (PPE) and is able to perform the work without risk of material health impairment.

1.8.3 PERSONAL PROTECTIVE EQUIPMENT

Provide whole body clothing, head coverings, foot coverings and any other personal protective equipment as determined by conducting the hazard assessment required by

OSHA at 29 CFR 1910.132 (d). The Competent Person shall ensure the integrity of personal protective equipment worn for the duration of the project. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle. Worker protection shall meet the most stringent requirements.

1.8.4 REGULATED AREA ENTRY PROCEDURE

The Competent Person shall ensure that each time workers enter the regulated area, they remove ALL street clothes in the designated decontamination area (per OSHA requirements) and put on new disposable coveralls, head coverings, and a clean respirator.

1.8.5 DECONTAMINATION PROCEDURE

The Competent Person shall require all personnel to adhere to following decontamination procedures whenever they leave the regulated area.

- A. When exiting the regulated area, remove all disposable PPE and dispose of in a disposal bag provided in the regulated area.
- B. Carefully decontaminate and clean the respirator. Put in a clean container/bag.
- C. Where containment is not required for ACM removal, an adequate decontamination/changing/washing station which meets OSHA requirements must be provided for the employees for removal of disposable PPE and to clean the respirator.

1.8.6 REGULATED AREA REQUIREMENTS

The Competent Person shall meet all requirements of 29 CFR 1926.1101 (o) and assure that all OSHA requirements for regulated areas at 29 CFR 1926.1101 are met. All personnel in the regulated area shall not be allowed to eat, drink, smoke, chew tobacco or gum, apply cosmetics, or in any way interfere with the fit of their respirator.

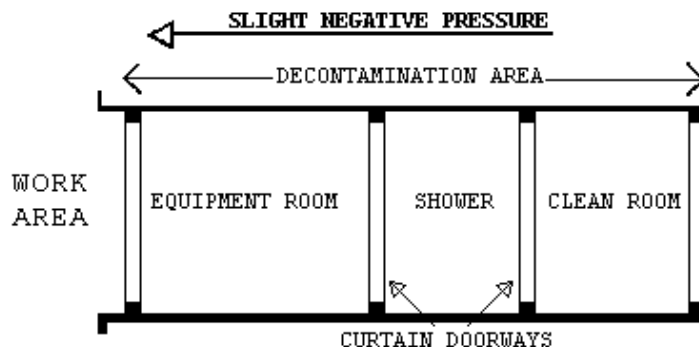
1.9 DECONTAMINATION FACILITIES

1.9.1 DESCRIPTION:

- A. Description: Provide each regulated area with separate personnel decontamination facilities (PDF) and waste/equipment decontamination facilities (W/EDF). Ensure that the PDF are the only means of ingress and egress to the regulated area and that all equipment, bagged waste, and other material exit the regulated area only through the W/EDF.
- B. General Requirements: All personnel entering or exiting a regulated area must go through the PDF and shall follow the requirements at 29 CFR 1926.1101 (j)(1) and these specifications. All waste, equipment and contaminated materials must exit the regulated area through the W/EDF and be decontaminated in accordance with these specifications. Walls and ceilings of the PDF and W/EDF must be constructed of a minimum of 3 layers of 6-mil opaque fire retardant polyethylene sheeting and be securely attached to existing building components and/or an adequate temporary framework. A minimum of 3 layers of 6-mil poly shall also be used to cover the floor under the PDF and W/EDF units. Construct doors so that they overlap and secure to adjacent surfaces. Weight inner doorway sheets with layers of duct tape or approved equivalent so that they close quickly after release. Put arrows on sheets so they show direction of travel and overlap. If the building adjacent area is occupied, construct a solid barrier on the occupied side(s) to protect the sheeting and reduce potential for non-authorized personnel entering the regulated area.

- C. Temporary Facilities to the PDF and W/EDF: The Competent Person shall provide temporary water service connections to the PDF and W/EDF. Backflow prevention must be provided at the point of connection to the VA system. Water supply must be of adequate pressure and meet requirements of 29 CFR 1910.141(d)(3). Provide adequate temporary overhead electric power with ground fault circuit interruption (GFCI) protection. Provide a sub-panel equipped with GFCI protection for all temporary power in the clean room. Provide adequate lighting to provide a minimum of 50 foot candles in the PDF and W/EDF. Provide temporary heat, if needed, to maintain 70 degrees F throughout the PDF and W/EDF.
- D. Personnel Decontamination Facility (PDF): The Competent Person shall provide a PDF consisting of shower room which is contiguous to a clean room and equipment room which is connected to the regulated area. The PDF must be sized to accommodate the number of personnel scheduled for the project. The shower room, located in the center of the PDF, shall be fitted with as many portable showers as necessary to insure all employees can complete the entire decontamination procedure within 15 minutes. The PDF shall be constructed of opaque poly for privacy. The PDF shall be constructed to eliminate any parallel routes of egress without showering.
1. Clean Room: The clean room must be physically and visually separated from the rest of the building to protect the privacy of personnel changing clothes. The clean room shall be constructed of at least 3 layers of 6-mil opaque fire retardant poly to provide an air tight room. Provide a minimum of 2 – 900 mm (3 foot) wide 6-mil poly opaque fire retardant doorways. One doorway shall be the entry from outside the PDF and the second doorway shall be to the shower room of the PDF. The floor of the clean room shall be maintained in a clean, dry and sanitary condition. Shower overflow shall not be allowed into the clean room. Provide 1 storage locker per person. A portable fire extinguisher, minimum 10 pounds capacity, Type ABC, shall be provided in accordance with OSHA and NFPA Standard 10. All persons entering the regulated area shall remove all street clothing in the clean room and dress in disposable protective clothing and respiratory protection. Any person entering the clean room does so either from the outside with street clothing on or is coming from the shower room completely naked and thoroughly washed. Male/Females required to enter the regulated area shall be ensured of their privacy throughout the entry/exit process by posting guards at both entry points to the PDF so no male/female can enter or exit the PDF during his/her stay in the PDF.
 2. Shower Room: The Competent Person shall assure that the shower room is a completely water tight compartment to be used for the movement of all personnel from the clean room to the equipment room and for the showering of all personnel going from the equipment room to the clean room. Each shower shall be constructed so water runs down the walls of the shower and into a drip pan. Install a freely draining smooth floor on top of the shower pan. The shower room shall be separated from the rest of the building and from the clean room and equipment room using air tight walls made from at least 3 layers of 6-mil opaque fire retardant poly. The shower shall be equipped with a shower head and controls, hot and cold water, drainage, soap dish and continuous supply of soap, and shall be maintained in a sanitary condition throughout its use. The controls shall be arranged so an individual can shower without assistance. Provide a flexible hose shower head, hose bibs and all other items shown on Shower Schematic. Waste water will be pumped to a drain after being filtered through a minimum of a 100 micron sock in the shower drain; a 20 micron filter; and a final 5 micron filter. Filters will be changed a minimum of daily or more often as needed. Filter changes must be done in the shower to prevent loss of contaminated water.

- Hose down all shower surfaces after each shift and clean any debris from the shower pan. Residue is to be disposed of as asbestos waste.
3. Equipment Room: The Competent Person shall provide an equipment room which shall be an air tight compartment for the storage of work equipment/tools, reusable personal protective equipment, except for a respirator and for use as a gross decontamination area for personnel exiting the regulated area. The Competent Person shall ensure that most gross contamination is removed from the outside of PPE, suits and respirators in the regulated work area, prior to entering the Equipment Room. The equipment room shall be separated from the regulated area by a minimum 3 foot wide door made with 2 layers of 6-mil opaque fire retardant poly. The equipment room shall be separated from the regulated area, the shower room and the rest of the building by air tight walls and ceiling constructed of a minimum of 3 layers of 6-mil opaque fire retardant poly. Damp wipe all surfaces of the equipment room after each shift change. Provide an additional loose layer of 6-mil fire retardant poly per shift change and remove this layer after each shift. If needed, provide a temporary electrical sub-panel equipped with GFCI in the equipment room to accommodate any equipment required in the regulated area.
 4. The PDF shall be as follows: Clean room at the entrance followed by a shower room followed by an equipment room leading to the regulated area. Each doorway in the PDF shall be a minimum of 2 layers of 6-mil opaque fire retardant poly.

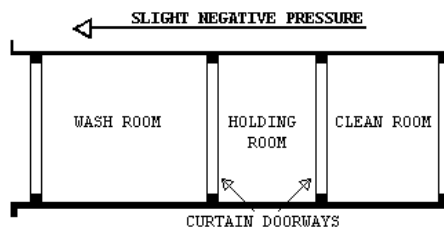


NOTE: Kentucky regulations require a 5-stage personnel decontamination facility; the personnel decontamination facility shall meet Kentucky requirements. A worker decontamination enclosure system shall be provided, consisting of a clean room, shower room, and equipment room, each separated from each other and from the work area by air locks and accessible through doorways protected with two (2) overlapping 6-mil polyethylene sheets. "Air lock" means a system of enclosures within the containment area consisting of two (2) doorways, curtained with 6-mil polyethylene sheeting, at least three (3) feet apart.

- E. Waste/Equipment Decontamination Facility (W/EDF):
1. The Competent Person shall provide a W/EDF consisting of a wash room, holding room, and clean room for removal of waste, equipment and contaminated material from the regulated area. Personnel shall not enter or exit the W/EDF except in the event of an emergency. Clean debris and residue in the W/EDF daily. All surfaces in

the W/EDF shall be wiped/hosed down after each shift and all debris shall be cleaned from the shower pan. The W/EDF shall consist of the following:

- a. Wash Down Station: Provide an enclosed shower unit in the regulated area just outside the Wash Room as an equipment bag and container cleaning station.
- b. Wash Room: Provide a wash room for cleaning of bagged or containerized asbestos containing waste materials passed from the regulated area. Construct the wash room using 50 x 100 mm (2 inches x 4 inches) wood framing or approved equivalent and 3 layers of 6-mil fire retardant poly. Locate the wash room so that packaged materials, after being wiped clean, can be passed to the Holding Room. Doorways in the wash room shall be constructed of 2 layers of 6-mil fire retardant poly.
- c. Holding Room: Provide a holding room as a drop location for bagged materials passed from the wash room. Construct the holding room using 50 x 100 mm (2 inches x 4 inches) wood framing or approved equivalent and 3 layers of 6-mil fire retardant poly. The holding room shall be located so that bagged material cannot be passed from the wash room to the clean room unless it goes through the holding room. Doorways in the holding room shall be constructed of 2 layers of 6-mil fire retardant poly.
- d. Clean Room: Provide a clean room to isolate the holding room from the exterior of the regulated area. Construct the clean room using 2 inches x 4 inches wood framing or approved equivalent and 2 layers of 6-mil fire retardant poly. The clean room shall be located so as to provide access to the holding room from the building exterior. Doorways to the clean room shall be constructed of 2 layers of 6-mil fire retardant poly. When a negative pressure differential system is used, a rigid enclosure separation between the W/EDF clean room and the adjacent areas shall be provided.
- e. The W/EDF shall be as follows: Wash Room leading to a Holding Room followed by a Clean Room leading to outside the regulated area. See diagram.



2. Waste/Equipment Decontamination Procedures: At the washdown station in the regulated area, thoroughly wet clean contaminated equipment and/or sealed polyethylene bags and pass into Wash Room after visual inspection. When passing anything into the Wash Room, close all doorways of the W/EDF, other than the doorway between the washdown station and the Wash Room. Keep all outside personnel clear of the W/EDF. Once inside the Wash Room, wet clean the equipment and/or bags. After cleaning and inspection, pass items into the Holding Room. Close all doorways except the doorway between the Holding Room and the Clean Room. Workers from the Clean Room/Exterior shall enter the Holding Room and remove the decontaminated/cleaned equipment/bags for removal and disposal. At no time shall personnel from the clean side be allowed to enter the Wash Room.

PART 2 – PRODUCTS, MATERIALS AND EQUIPMENT

2.1 MATERIALS AND EQUIPMENT

2.1.1 GENERAL REQUIREMENTS (ALL ABATEMENT PROJECTS)

Prior to the start of work, the Abatement Contractor shall provide and maintain a sufficient quantity of materials and equipment to assure continuous and efficient work throughout the duration of the project. Work shall not start unless the Abatement Contractor's Competent Person has verified all necessary materials and equipment are onsite.

- A. All materials shall be delivered in their original package, container or bundle bearing the name of the manufacturer and the brand name (where applicable).
- B. Store all materials subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. Flammable and combustible materials cannot be stored inside buildings. Replacement materials shall be stored outside of the regulated area until abatement is completed.
- C. The Abatement Contractor shall not block or hinder use of buildings by patients, staff, and visitors to the Owner in partially occupied buildings by placing materials/equipment in any unauthorized location.
- D. The Competent Person shall inspect for damaged, deteriorating or previously used materials. Such materials shall not be used and shall be removed from the worksite and disposed of properly.
- E. As applicable, polyethylene sheeting for any walls in the regulated area shall be a minimum of 4-mils. For floors and all other uses, sheeting of at least 6-mil shall be used in widths selected to minimize the frequency of joints. Fire retardant poly shall be used throughout.
- F. As applicable, the method of attaching polyethylene sheeting shall be agreed upon in advance by the Abatement Contractor and the Owner and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of moisture resistant duct tape furring strips, spray glue, staples, nails, screws, lumber and plywood for enclosures or other effective procedures capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions.
- G. Polyethylene sheeting utilized for the PDF shall be opaque white or black in color, 6 mil fire retardant poly.
- H. Installation and plumbing hardware, showers, hoses, drain pans, sump pumps and waste water filtration system shall be provided by the Abatement Contractor.
- I. An adequate number of HEPA vacuums, scrapers, sprayers, nylon brushes, brooms, disposable mops, rags, sponges, staple guns, shovels, ladders and scaffolding of suitable height and length as well as meeting OSHA requirements, fall protection devices, water hose to reach all areas in the regulated area, airless spray equipment, and any other tools, materials or equipment required to conduct the abatement project. All electrically operated hand tools, equipment, electric cords shall be connected to GFCI protection.
- J. Special protection for objects in the regulated area shall be detailed (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds, water and falling material).
- K. Disposal bags – 2 layers of 6 mil poly for asbestos waste shall be pre-printed with labels, markings and address as required by OSHA, EPA and DOT regulations.
- L. The Owner shall be provided an advance copy of the SDS as required for all hazardous chemicals under OSHA 29 CFR 1910.1200 - Hazard Communication in the pre-project submittal. Chlorinated compounds shall not be used with any spray adhesive, mastic remover or other product. Appropriate encapsulant(s) shall be provided.

- M. OSHA DANGER demarcation signs, as many and as required by OSHA 29 CFR 1926.1101 shall be provided and placed by the Competent Person. All other posters and notices required by Federal and State regulations shall be posted in the Clean Room.
- N. Adequate and appropriate PPE for the project and number of personnel/shifts shall be provided. All personal protective equipment issued must be based on a written hazard assessment conducted under 29 CFR 1910.132(d).

2.1.2. OUTDOOR ABATEMENT WORK

- A. Outdoor Work Areas (when applicable): On some projects, work must be performed on exterior areas of the building. Outdoor abatement work is to be performed, all applicable EPA, OSHA, state, and local regulations must be followed to ensure that outdoor work areas are in compliance so that workers, the general public and the environment are protected. All regulated areas must be properly demarcated, and a decontamination unit shall be placed at the regulated work area. Place 6-mil polyethylene sheeting 25 feet in all possible horizontal surfaces from the building to aid in cleaning material debris that may fall off building.
- B. Scaffold Fall Protection (when applicable): Each employee more than 6 feet above the base work level shall be protected from falls by guardrails or a fall arrest system. Fall arrest system includes harnesses, components of the harness/belt such as Dee-rings, and snap hooks, lifelines, and anchorage points. Lifelines must be independent of supports lines and suspension ropes and not attached to the same anchorage point as the support or suspension rope. OSHA's scaffolding standard defines a competent person as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous to employees, and who has authorization to take prompt corrective measures to eliminate them." The competent person will determine if it is safe for employees to work on or from a scaffold or roof during storms or high winds and to ensure that a personal fall arrest system will protect the employees. The competent person will also inspect the scaffold and scaffold components for visible defects before each work shift and after any occurrence which could affect the structural integrity and to authorize prompt corrective measures.
- C. Roof/Elevated Work Area Protection (when applicable): The competent person shall determine if the walking/working surfaces on which the employees are to work on have the strength and structural integrity to support the employees safely. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest system.
- D. Excavation/Trenching Work Area Protection (when applicable): Each employee who is working in excavation/trenching work areas to alter or remove materials such as underground piping shall be protected from hazards arising from such work areas. A competent person who is OSHA trained in excavation/trenching operations must be present on site at all time in which work in these areas occurs. The competent person will determine if it is safe for employees to work on or in excavation/trenching work areas and to ensure that all applicable safety measures will protect the employees. The competent person will also inspect the excavation/trenching areas for visible defects before each work shift and after any occurrence which could affect the structural integrity of the excavation/trenching areas and to authorize prompt corrective measures.
- E. Removal of Outdoor ACM:
 - 1. All outdoor ACM must be wetted prior to removal. Unfasten materials in a manner that prevents disturbance if feasible, keep materials intact to the extent feasible.

2. All waste must be wrapped and tightly sealed in two individual layers of 6-mil poly or placed in two individual 6-mil poly disposal bags, tightly sealed, and lowered carefully to the ground.
3. Materials may not be dropped from any height. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist.

2.1.3 NEGATIVE PRESSURE FILTRATION SYSTEM

For all interior building work, the Abatement Contractor shall provide enough HEPA negative air machines to continuously maintain a pressure differential of -0.02" water column gauge. The Competent Person shall determine the number of units needed for the regulated area by dividing the cubic feet in the regulated area by 15 and then dividing that result by the cubic feet per minute (CFM) for each unit to determine the number of units needed to continuously maintain a pressure differential of -0.02" WCG. Provide a standby unit in the event of machine failure and/or emergency in an adjacent area. NIOSH has done extensive studies and has determined that negative air machines typically operate at ~50% efficiency. The Abatement Contractor shall consider this in their determination of number of units needed to continuously maintain a pressure differential of -0.02" water column gauge. The Abatement Contractor shall use 8 air changes per hour or double the number of machines, based on their calculations, or submit proof their machines operate at stated capacities, at a 2" pressure drop across the filters.

2.1.4 DESIGN AND LAYOUT

- A. Before start of work, submit the design and layout of the regulated area and the negative air machines. The submittal shall indicate the number of, location of and size of negative air machines. The point(s) of exhaust, air flow within the regulated area, anticipated negative pressure differential, and supporting calculations for sizing shall be provided. In addition, submit the following:
 1. Method of supplying power to the units and designation/location of the panels.
 2. Description of testing method(s) for correct air volume and pressure differential.
 3. If auxiliary power supply is to be provided for the negative air machines, provide a schematic diagram of the power supply and manufacturer's data on the generator and switch.

2.1.5 NEGATIVE AIR MACHINES (HEPA UNITS)

- A. Negative Air Machine Cabinet: The cabinet shall be constructed of steel or other durable material capable of withstanding potential damage from rough handling and transportation. The width of the cabinet shall be less than 30" in order to fit in standard doorways. The cabinet must be factory sealed to prevent asbestos fibers from being released during use, transport, or maintenance. Any access to and replacement of filters shall be from the inlet end. The unit must be on casters or wheels.
- B. Negative Air Machine Fan: The rating capacity of the fan must indicate the CFM under actual operating conditions. Manufacturer's typically use "free-air" (no resistance) conditions when rating fans. The fan must be a centrifugal type fan.
- C. Negative Air Machine Final Filter: The final filter shall be a HEPA filter. The filter media must be completely sealed on all edges within a structurally rigid frame. The filter shall align with a continuous flexible gasket material in the negative air machine housing to form an air tight seal. Each HEPA filter shall be certified by the manufacturer to have an efficiency of not less than 99.97%. Testing shall have been done in accordance with

Military Standard MIL-STD-282 and Army Instruction Manual 136-300-175A. Each filter must bear a UL586 label to indicate ability to perform under specified conditions. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

- D. Negative Air Machine Pre-filters: The pre-filters, which protect the final HEPA filter by removing larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. A first stage pre-filter shall be a low efficiency type for particles 10 µm or larger. A second stage pre-filter shall have a medium efficiency effective for particles down to 5 µm or larger. Pre-filters shall be installed either on or in the intake opening of the negative air machine and the second stage filter must be held in place with a special housing or clamps.
- E. Negative Air Machine Instrumentation: Each unit must be equipped with a gauge to measure the pressure drop across the filters and to indicate when filters have become loaded and need to be changed. A table indicating the cfm for various pressure readings on the gauge shall be affixed near the gauge for reference or the reading shall indicate at what point the filters shall be changed, noting cfm delivery. The unit must have an elapsed time meter to show total hours of operation.
- F. Negative Air Machine Safety and Warning Devices: An electrical/ mechanical lockout must be provided to prevent the fan from being operated without a HEPA filter. Units must be equipped with an automatic shutdown device to stop the fan in the event of a rupture in the HEPA filter or blockage in the discharge of the fan. Warning lights are required to indicate normal operation; too high a pressure drop across filters; or too low of a pressure drop across filters.
- G. Negative Air Machine Electrical: All electrical components shall be approved by the National Electrical Manufacturer's Association (NEMA) and Underwriters Laboratories (UL). Each unit must be provided with overload protection and the motor, fan, fan housing, and cabinet must be grounded.
- H. It is essential that replacement HEPA filters be tested using an "in-line" testing method, to ensure the seal around the periphery was not damaged during replacement. Damage to the outer HEPA filter seal could allow contaminated air to bypass the HEPA filter and be discharged to an inappropriate location. The Abatement Contractor will provide written documentation of test results for negative air machine units with HEPA filters changed by the Abatement Contractor.

2.1.6 PRESSURE DIFFERENTIAL

For all interior building work, the fully operational negative air system within the regulated area shall continuously maintain a pressure differential of -0.02" water column gauge. Before any disturbance of any asbestos material, this shall be demonstrated to the Owner and/or Owner's Representative by use of a pressure differential meter/manometer as required by OSHA 29 CFR 1926.1101(e)(5)(i). The Competent Person shall be responsible for providing, maintaining, and documenting the negative pressure and air changes as required by OSHA and this specification.

2.1.7 MONITORING

The pressure differential shall be continuously monitored and recorded between the regulated area and the area outside the regulated area with a monitoring device that incorporates a strip chart recorder. The strip chart recorder shall become part of the project log and shall indicate at least -0.02" water column gauge for the duration of the project.

2.1.8 SUPPLEMENTAL MAKE-UP AIR INLETS

Provide, as needed for proper air flow in the regulated area, in a location approved by the Owner and/or Owner's Representative, openings in the plastic sheeting to allow outside air to flow into the regulated area. Auxiliary makeup air inlets must be located as far from the negative air machines as possible, off the floor near the ceiling, and away from the barriers that separate the regulated area from the occupied clean areas. Cover the inlets with weighted flaps which will seal in the event of failure of the negative pressure system.

2.1.9 TESTING THE SYSTEM

The negative pressure system must be tested before any ACM is disturbed in any way. After the regulated area has been completely prepared, the decontamination units set up, and the negative air machines installed, start the units up one at a time. Demonstrate and document the operation and testing of the negative pressure system to the Owner and/or Owner's Representative using smoke tubes and a negative pressure gauge. Verification and documentation of adequate negative pressure differential across each barrier must be done at the start of each work shift.

2.1.10 DEMONSTRATION OF THE NEGATIVE AIR PRESSURE SYSTEM

The demonstration of the operation of the negative pressure system to the Owner and/or Owner's Representative shall include, but not be limited to, the following:

- A. Plastic barriers and sheeting move lightly in toward the regulated area.
- B. Curtains of the decontamination units move in toward regulated area.
- C. There is a noticeable movement of air through the decontamination units. Use the smoke tube to demonstrate air movement from the clean room to the shower room to the equipment room to the regulated area.
- D. Use smoke tubes to demonstrate air is moving across all areas in which work is to be done. Use a differential pressure gauge to indicate a negative pressure of at least -0.02" across every barrier separating the regulated area from the rest of the building. Modify the system as necessary to meet the above requirements.

2.1.11 USE OF SYSTEM DURING ABATEMENT OPERATIONS

- A. Start units before beginning any disturbance of ACM occurs. After work begins, the units shall run continuously, maintaining 4 actual air changes per hour at a negative pressure differential of -0.02" water column gauge, for the duration of the work until a final visual clearance and final air clearance has been successfully completed.
No negative air units shall be shut down at any time unless authorized by the Owner and/or Owner's Representative, verbally and in writing. The only time when negative air units may be shut off is when no electricity is available at the site and portable electricity generators must be used. In this case, negative air units may be shut off at the end of each work shift provided that any and all openings to the work area containment are tightly sealed shut until the next shift's work resumes.
- B. Abatement work shall begin at a location farthest from the units and proceed towards them. If an electric failure occurs, the Competent Person shall stop all abatement work and immediately begin wetting all exposed asbestos materials for the duration of the power outage. Abatement work shall not resume until power is restored and all units are operating properly again.

- C. The negative air machines shall continue to run after all work is completed and until a final visual clearance and a final air clearance has been successfully completed for that regulated area.

2.2 CONTAINMENT BARRIERS AND COVERINGS IN THE REGULATED AREA

2.2.1 GENERAL

Demarcate the regulated work area per OSHA requirements. Any and all HVAC intakes in the regulated area (whether indoor or outdoor work) must be covered with 2 layers of 6 mil fire retardant poly. Should adjacent areas become contaminated, immediately stop work and clean up the contamination at no additional cost to the Owner.

2.2.2 PREPARATION PRIOR TO SEALING THE REGULATED AREA

Place all tools, scaffolding, materials, and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment and/or supplies from the regulated area before commencing work, or completely cover with 2 layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any HVAC systems in the regulated area.

2.2.3 CONTROLLING ACCESS TO THE REGULATED AREA

Access to the regulated area is allowed only through the personnel decontamination facility (PDF), if required. All other means of access shall be eliminated, and OSHA Danger demarcation signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of 6 mil opaque fire retardant poly sheeting to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid.

2.2.4 CRITICAL BARRIERS

Individually seal with two layers of 6 mil poly and duct tape any and all HVAC openings and any and all openings to the building interior inside the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other objects in the regulated area. Heat must be shut off any objects covered with poly.

For outdoor work, if there are any openings into the interior of the building, and for HVAC air intakes, completely separate any openings in the regulated area from adjacent areas using fire retardant poly at least 6 mils thick and duct tape.

2.2.5 PRIMARY BARRIERS

- A. Cover the regulated area with two layers of 6 mil fire retardant poly on the floors and two layers of 6 mil, fire retardant poly on the walls, unless otherwise directed in writing by the VA representative. Floor layers must form a right angle with the wall and turn up the wall at least 300 mm (12"). Seams must overlap at least 1800 mm (6') and must be spray glued and taped. Install sheeting so that layers can be removed independently from each other. Carpeting shall be covered with three layers of 6 mil poly. Corrugated cardboard sheets must be placed between the bottom and middle layers of poly. Mechanically support and seal with duct tape and glue all wall layers.
- B. Elevator doors, if applicable, must be covered with 2 layers of 6 mil fire retardant poly. The elevator door must be in a positively pressurized area outside the clean room of the PDF.

- C. If stairs and ramps are covered with 6 mil plastic, two layers must be used. Provide 19 mm (3/4") exterior grade plywood treads held in place with duct tape/glue on the plastic. Do not cover rungs or rails with any isolation materials.

2.2.6 SECONDARY BARRIERS:

A loose layer of 6 mil fire retardant poly shall be used as a drop cloth to protect the floor/horizontal surfaces from debris generated during the Class I and Class II OSHA Asbestos Work, except for floor tile/floor mastic and roofing material abatement. This layer shall be replaced as needed during the work.

2.2.7 EXTENSION OF THE REGULATED AREA

If the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. If the affected area cannot be added to the regulated area, decontamination measures must be started immediately and continue until air monitoring indicates background levels are met.

2.3 MONITORING, INSPECTION AND TESTING

2.3.1 GENERAL

- A. Perform throughout abatement work monitoring, inspection and testing inside and around the regulated area in accordance with the OSHA requirements and these specifications. OSHA requires that the Employee exposure to asbestos must not exceed 0.1 fiber per cubic centimeter (f/cc) of air, averaged over an 8-hour work shift and 1.0 f/cc for a 30-minute excursion. The Abatement Contractor's Competent Person shall be responsible for and shall inspect and oversee the performance of the work for compliance with this specification and applicable federal and state asbestos regulations. The Competent Person shall continuously inspect and monitor conditions inside the regulated area to ensure compliance with these specifications. In addition, the Abatement Contractor's Competent Person shall personally manage air sample collection, analysis, and evaluation for personnel, regulated area, and adjacent area samples to satisfy OSHA requirements. Additional inspection and testing requirements are also indicated in other parts of this specification.
- B. The Owner may employ an independent a third-party consultant (Owner's Representative). The Owner's Representative may conduct random site visits and will conduct final visual/ air clearance to ensure that that the abatement work proceeds in accordance with these specifications, that the abated areas or abated buildings have been successfully decontaminated. The work of the Owner's Representative consultant in no way relieves the Abatement Contractor from their responsibility to perform the work in accordance with contract/specification requirements, to perform continuous inspection, monitoring and testing for the safety of their employees, and to perform other such services as specified. The cost of the Owner's Representative and their services will be borne by the Owner except for any repeat of final inspection and testing that may be required due to unsatisfactory initial results. Any repeated final inspections and/or testing, if required, will be paid for by the Abatement Contractor.

2.3.2 SCOPE OF SERVICES OF THE OWNER'S REPRESENTATIVE (THIRD-PARTY CONSULTANT)

- A. The Owner reserves the right to utilize and provide third-party consultant services during the asbestos abatement project. The purpose of the work of the Owner's Representative (Third-Party Consultant) is to: assure quality; resolve problems; and prevent the spread of contamination beyond the regulated area. In addition, their work includes performing the final inspection and testing to determine whether the regulated area or building has been adequately decontaminated. All air monitoring is to be done utilizing PCM. The Owner's Representative may and/or shall perform the following tasks:
 - 1. May perform unannounced site visits to spot check overall compliance of work with contract/specifications. These visits may include any inspection, monitoring, and testing inside and outside the regulated area and all aspects of the operation except personnel monitoring.
 - 4. May provide support to the Owner such as evaluation of submittals from the Contractor, resolution of unforeseen developments, etc.
 - 5. Perform a final visual inspection and air clearance testing of decontaminated regulated areas or building at the conclusion of the abatement and clean-up work to certify compliance with all regulations and the Owner requirements/specifications.
 - 6. May issue a final monitoring report.
- B. All documentation, inspection results and testing results generated by the Owner's Representative will be available to the Abatement Contractor for information and consideration. The Abatement Contractor shall cooperate with and support the Owner's Representative for efficient and smooth performance of their work.
- C. Any monitoring and inspection results of the Owner's Representative will be used by the Owner to issue any Stop Removal orders to the Abatement Contractor during abatement work and to accept or reject a regulated area or building as decontaminated.

2.3.3 MONITORING, INSPECTION AND TESTING BY CONTRACTOR

The Abatement Contractor is responsible for managing all monitoring, inspections, and testing required by these specifications, as well as any and all regulatory requirements adopted by these specifications. The Abatement Contractor is responsible for the continuous monitoring of all subsystems and procedures which could affect the health and safety of the Abatement Contractor's personnel. Safety and health conditions and the provision of those conditions inside the regulated area for all persons entering the regulated area is the exclusive responsibility of the Abatement Contractor/Competent Person. The analytic laboratory used by the Abatement Contractor to analyze the personal samples shall be AIHA accredited for asbestos PAT and approved by the Owner prior to start of the project. A daily log, shall be maintained by the Abatement Contractor, documenting all OSHA requirements for air personal monitoring for asbestos in 29 CFR 1926.1101(f), (g) and Appendix A. This log shall be made available to the Owner and/or the Owner's Representative upon request. The log will contain, at a minimum, information on personnel or area samples, other persons represented by the sample, the date of sample collection, start and stop times for sampling, sample volume, flow rate, and fibers/cc. The Abatement Contractor shall collect and analyze samples for each representative job being done in the regulated area, i.e., removal, wetting, clean-up, and load-out. No fewer than 25% of the work crew shall be sampled for asbestos exposure per 29 CFR 1926.1101. The Contractor will perform inspection and testing at the final stages of abatement for each regulated area as specified in the Abatement Contractor responsibilities. Additionally, the Abatement Contractor will monitor and record pressure

readings, for negative pressure containments if applicable, daily with a minimum of two readings at the beginning and at the end of a shift and submit the data in the daily report.

2.4 ASBESTOS HAZARD ABATEMENT PLAN

The Abatement Contractor shall have established Asbestos Hazard Abatement Plan (AHAP) in printed form and loose-leaf folder consisting of simplified text, diagrams, sketches, and pictures that establish and explain clearly the ways and procedures to be followed during all phases of the work by the Abatement Contractor's personnel. The AHAP must be modified as needed to address specific requirements of the project. The AHAP shall be submitted for review and approval prior to the start of any abatement work. The minimum topics and areas to be covered by the AHAP(s) are:

- A. Minimum Personnel Qualifications
- B. Contingency Plans and Arrangements
- C. Security and Safety Procedures
- D. Respiratory Protection/Personal Protective Equipment Program and Training
- E. Medical Surveillance Program and Recordkeeping
- F. Regulated Area Requirements for Abatement
- G. Decontamination Facilities and Entry/Exit Procedures (PDF and W/EDF)
- H. Monitoring, Inspections, and Testing
- I. Disposal of ACM waste
- J. Regulated Area Decontamination/Clean-up
- K. Regulated Area Visual and Air Clearance
- L. Project Completion/Closeout

2.5 SUBMITTALS

2.5.1 PRE-START MEETING SUBMITTALS

Submit to the Owner a minimum of 10 days prior to the pre-start meeting the following for review and approval. Meeting this requirement is a prerequisite for the pre-start meeting for this project:

- A. Submit a detailed work schedule for the entire project reflecting contract documents and the phasing/schedule requirements from the CPM chart.
- B. Submit a staff organization chart showing all personnel who will be working on the project and their capacity/function. Provide their qualifications, training, accreditations, and licenses, as appropriate. Provide a copy of the signed "Certificate of Worker's Acknowledgment" and the "Affidavit of Medical Surveillance and Respiratory Protection" for each person – see attached for forms.
- C. Submit Asbestos Hazard Abatement Plan developed specifically for this project, incorporating the requirements of the specifications, prepared, signed and dated by the Abatement Contractor.
- D. Submit the specifics of the materials and equipment to be used for this project with manufacturer names, model numbers, performance characteristics, pictures/diagrams, and number available for the following:
 - 1. Supplied air system, negative air machines, HEPA vacuums, air monitoring pumps, calibration devices, pressure differential monitoring device and emergency power generating system.
 - 2. Wastewater filtration system, shower system, containment barriers.
 - 3. Encapsulants, surfactants, handheld sprayers, airless sprayers, and fire extinguishers.
 - 4. Respirators, protective clothing, personal protective equipment.
 - 5. Fire safety equipment to be used in the regulated area.

- E. Submit the name, location, and phone number of the approved landfill; proof/verification the landfill is approved for ACM disposal; the landfill's requirements for ACM waste; the type of vehicle to be used for transportation; and name, address, and phone number of sub-contractor, if used.
- F. Submit required notifications and arrangements made with regulatory agencies having regulatory jurisdiction and the specific contingency/emergency arrangements made with local health, fire, ambulance, hospital authorities and any other notifications/arrangements.
- G. Submit the name, location, and verification of the laboratory and/or personnel to be used for analysis of personal air samples. Personal air monitoring must be done in accordance with OSHA 29 CFR 1926.1101 (f) and Appendix A.
- H. Submit qualifications verification: Submit the following evidence of qualifications. Make sure that all references are current and verifiable by providing current phone numbers and documentation.
 - 1. Asbestos Abatement Company: Project experience within the past 2 years; listing projects first most similar to this project: Project Name; Type of Abatement; Duration; Cost; Reference Name/Phone Number; Final Clearance; and Completion Date
 - 2. List of project(s) halted by owner, A/E, IH, regulatory agency in the last 1 years, if any: Project Name; Reason; Date; Reference Name/Number; Resolution
 - 3. List asbestos regulatory citations (e.g., OSHA), notices of violations (e.g., Federal and state EPA), penalties, and legal actions taken against the company including and of the company's officers (including damages paid) in the last 2 years, if any. Provide copies and all information needed for verification.
- I. Submit information on personnel: provide a resume; address each item completely; copies of certificates, accreditations, and licenses. Submit an affidavit signed by the Competent Person stating that all personnel submitted below have medical records in accordance with OSHA 29 CFR 1926.1101(m) and 29 CFR 1910.20 and that the company has implemented a medical surveillance program and written respiratory protection program and maintains recordkeeping in accordance with the above regulations. Submit the phone number and doctor/clinic/hospital used for medical evaluations.
 - 1. Competent Person(s)/Supervisor(s): Number; names; social security numbers; years of abatement experience as Competent Person/Supervisor; list of similar projects in size/complexity as Competent Person/Supervisor; as a worker; certificates, licenses, accreditations; proof of AHERA/OSHA specialized asbestos training; maximum number of personnel supervised on a project; medical opinion (asbestos surveillance and respirator use); and current respirator fit test.
 - 2. Workers: Numbers; names; social security numbers; years of abatement experience; certificates, licenses, accreditations; training courses in asbestos abatement and respiratory protection; medical opinion (asbestos surveillance and respirator use); and current respirator fit test.
- J. Submit copies of State license for asbestos abatement; copy of insurance policy, including exclusions with a letter from agent stating in plain language the coverage provided and the fact that asbestos abatement activities are covered by the policy; copy of AHAP(s) incorporating the requirements of this specification; information on who provides your training, how often; who provides medical surveillance, how often; who performs and how is personal air monitoring of abatement workers conducted; a list of references of independent laboratories/IH's familiar with your air monitoring and standard operating procedures; and copies of monitoring results of the five referenced projects listed and analytical method(s) used.
- K. Rented equipment must be decontaminated prior to returning to the rental agency.

- L. Submit, before the start of work, the manufacturer's technical data for all types of encapsulants, all SDS, and application instructions.

2.5.2 SUBMITTALS DURING ABATEMENT

- A. The Competent Person shall maintain and submit a daily log at the regulated area documenting the dates and times of the following: purpose, attendees and summary of meetings; all personnel entering/exiting the regulated area; document and discuss the resolution of unusual events such as barrier breeching, equipment failures, emergencies, and any cause for stopping work; representative air monitoring and results/TWAs/ELs. This information must be available daily upon request by the Owner and/or Owner's Representative.

2.5.3 SUBMITTALS AT COMPLETION OF ABATEMENT

The Abatement Contractor shall submit a project report consisting of the daily logbook requirements and documentation of events during the abatement project including Waste Shipment Records signed by the landfill's agent. It will also include information on the regulated work areas and transportation of waste from the work areas with applicable Chain of Custody forms. All personnel air sample results shall be included. The report shall include a certificate of completion, signed, and dated by the Abatement Contractor in accordance with Attachment #1 (see attached).

PART 3 - EXECUTION

3.1 PRE-ABATEMENT ACTIVITIES

3.1.1 PRE-ABATEMENT MEETING

The Owner and/or Owner's Representative, upon receipt, review, and substantial approval of all pre-abatement submittals and verification by the Contractor that all materials and equipment required for the project are on the site, will arrange for a pre-abatement meeting between the Abatement Contractor, the Competent Person(s), the Owner's representative(s), and the Owner. The purpose of the meeting is to discuss any aspect of the submittals needing clarification or amplification and to discuss any aspect of the project execution and the sequence of the operation. The Abatement Contractor shall be prepared to provide any supplemental information/documentation to the Owner and/or Owner's Representative regarding any submittals, documentation, materials, or equipment. Upon satisfactory resolution of any outstanding issues, the Owner's will issue a written order to proceed to the Abatement Contractor. No abatement work of any kind described in the following provisions shall be initiated prior to the Owner's written order to proceed.

3.1.2 PRE-ABATEMENT INSPECTIONS AND PREPARATIONS

Before any work begins on the construction of the regulated area, the Abatement Contractor will:

- A. For renovation projects, conduct a space-by-space inspection with the Owner and/or Owner's Representative and prepare a written inventory of all existing damage in those spaces where asbestos abatement will occur. Still or video photography may be used to supplement the written damage inventory. Document will be signed as accurate by the Owner and the Abatement Contractor. For demolition projects, this may not be necessary per Owner requirements.

- B. Ensure that all furniture, machinery, equipment, curtains, drapes, blinds, and other movable objects required to be removed from the regulated area have been cleaned and removed or properly protected from contamination.
- C. If present and required, remove ,and dispose of carpeting from floors in the regulated area.

3.1.3 PRE-ABATEMENT CONSTRUCTION AND OPERATIONS

- A. Perform all preparatory work for the first regulated area in accordance with the approved work schedule and with this specification.
- B. Upon completion of all preparatory work, the Abatement Contractor will inspect the work and systems and will notify the Owner and/or Owner's Representative when the work is completed in accordance with this specification. The Owner and/or Owner's Representative may inspect the regulated area and the systems with the Abatement Contractor and may require that upon satisfactory inspection, the Abatement Contractor's employees perform all major aspects of the approved SOP's, especially worker protection, respiratory systems, contingency plans, decontamination procedures, and monitoring to demonstrate satisfactory operation.
- C. The Abatement Contractor shall document the pre-abatement activities described above and include in the final report documentation.
- D. Upon satisfactory inspection of the installation of and operation of systems, the Owner and/or Owner's Representative may conduct an inspection and notify the Abatement Contractor to proceed with the asbestos abatement work in accordance with this specification.

3.2 REGULATED AREA PREPARATIONS

3.2.1 OSHA DANGER SIGNS

Post OSHA DANGER signs meeting the specifications of OSHA 29 CFR 1926.1101 at any location and approaches to the regulated area where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the regulated area to permit any personnel to read the sign and take the necessary measures to avoid exposure. Additional signs will be posted following construction of the regulated area enclosure.

3.2.2 SHUT DOWN - LOCK OUT ELECTRICAL

When electricity service is still connected/available and energized, shut down and lock out/tag out electric power to the regulated area. Provide temporary power and lighting when electricity is shut down/locked out, and when no electricity exists at that site. Ensure safe installation including GFCI of temporary power sources and equipment by compliance with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. Electricity (e.g., portable electrical generators) shall be provided by the Abatement Contractor when no electricity services exist. Portable electrical generators must be safely maintained in accordance with the manufacturer's recommendations and in accordance with all applicable federal, state, and local regulations. Portable generating equipment shall be provided to sufficiently and continuously maintain and operate negative air machines at -0.02 inches of water column as well as sufficient to also maintain the use of other equipment necessary to facilitate and complete the work.

3.2.3 SHUT DOWN - LOCK OUT HVAC

If electricity service is available and HVAC equipment is energized, shut down and lock out/tag out heating, cooling, and air conditioning system (HVAC) components that are in, supply or pass through the regulated area.

Investigate the regulated area and agree on pre-abatement conditions with the Owner and/or Owner's Representative. Regardless of the presence or lack of electrical service, seal all intake and exhaust vents in the regulated area with duct tape and 2 layers of 6-mil poly. Also, seal any seams in system components that pass through the regulated area. If present, remove all contaminated HVAC system filters and place in labeled 6-mil poly disposal bags for disposal as asbestos waste.

3.2.4 SANITARY FACILITIES

If no sanitary facilities are available onsite for use as may be noted per the Extent of Work Section 1.1.2, the Abatement Contractor shall provide sufficient sanitary facilities (e.g., portalets) for abatement personnel and maintain them in a clean and sanitary condition throughout the abatement project.

3.2.5 WATER FOR ABATEMENT

If no water source is available for connection and use at the site as may be noted per the Extent of Work Section 1.1.2, the Abatement Contractor must provide sufficient water at the site for abatement purposes. If applicable to the system, the service to the regulated work area shall be supplied with backflow prevention.

3.2.6 ELECTRICITY

If no electricity is available for connection and use at the site as may be noted per the Extent of Work Section 1.1.2, the Asbestos Abatement Contractor must provide sufficient and adequate electricity for the project. Electricity (e.g., portable electrical generators) shall be provided by the Abatement Contractor when no electricity services exist. Portable electrical generators must be safely maintained in accordance with the manufacturer's recommendations and in accordance with all applicable federal, state, and local regulations. Portable generating equipment shall be provided to sufficiently and continuously maintain and operate negative air machines at -0.02 inches of water column as well as sufficient to also maintain the use of other equipment necessary to facilitate and complete the work.

3.2.7 PRE-CLEANING MOVABLE OBJECTS

Pre-cleaning of ACM contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area. After items have been pre-cleaned and decontaminated, they may be removed from the work area for storage until the completion of abatement in the work area.

Pre-clean all movable objects within the regulated area using a HEPA filtered vacuum and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the regulated area and carefully stored in an uncontaminated location.

3.2.8 PRE-CLEANING FIXED OBJECTS

Pre-cleaning of ACM contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area. Pre-clean all fixed objects in the regulated area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. Careful attention must be paid to machinery behind grills or gratings where access may be difficult, but contamination may be significant. Also, pay particular attention to wall, floor and ceiling penetration behind fixed items. After pre-cleaning, enclose fixed objects with 2 layers of 6-mil poly and seal securely in place with duct tape. Objects (e.g., permanent fixtures, shelves, electronic equipment, laboratory tables, sprinklers, alarm systems, closed circuit TV equipment and computer cables) which must remain in the regulated area and that require special ventilation or enclosure requirements should be designated here along with specified means of protection. Contact the manufacturer for special protection requirements.

3.2.9 PRE-CLEANING SURFACES IN THE REGULATED AREA

Pre-cleaning of ACM contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area. PPE must be donned during all pre-cleaning activities. Pre-clean all surfaces in the regulated area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos-containing materials during this pre-cleaning phase.

3.3 BARRIERS AND COVERINGS FOR THE REGULATED AREA

3.3.1 GENERAL

The perimeter of the regulated area shall meet and be clearly demarcated per OSHA requirements. Two layers of 6 mil fire retardant poly shall be used to cover any openings into the interior of the building and any HVAC air intakes to prevent contamination and to facilitate clean-up. Should adjacent areas become contaminated, immediately stop work and clean up the contamination at no additional cost to the Owner.

3.3.2 PREPARATION PRIOR TO SEALING OFF

Place all tools, scaffolding, materials, and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment and/or supplies from the regulated area before commencing work, or completely cover with 2 layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any HVAC systems in the regulated area.

3.3.3 CONTROLLING ACCESS TO THE REGULATED AREA

Access to the regulated area is allowed only through the personnel decontamination facility (PDF), if required. All other means of access shall be eliminated, and OSHA Danger demarcation signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of 6 mil opaque fire retardant poly sheeting to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid.

3.3.4 CRITICAL BARRIERS

Indoor regulated areas must be completely separated from the adjacent areas, and the outside by at least 2 layers of 6 mil, fire retardant poly and duct tape/spray adhesive. Individually seal all supply and exhaust ventilation openings, lighting fixtures, clocks, doorways, windows, convectors, speakers, and other openings into the regulated area with 2 layers of 6 mil fire retardant poly and taped securely in place with duct tape/spray adhesive. Critical barriers must remain in place until all work and clearances have been completed. Light fixtures shall not be operational during abatement. Auxiliary lighting shall be provided. If needed, provide plywood squares 6" x 6" x 3/8" (150mm x 150mm x 18mm) held in place with one 6d smooth masonry/galvanized nail driven through the center of the plywood square and duct tape on the poly so as to clamp the poly to the wall/surface. Locate plywood squares at each end, corner, and 4' (1200mm) maximum on centers.

3.3.5 PRIMARY/SECONDARY BARRIERS

- A. Floors: Cover the floor of the regulated area with at least two layers of 6 mil, fire retardant poly, turning up the walls at least 12" (300mm). The poly must form a right angle at the floor-wall juncture so there is no radius which can be stepped on, possibly causing detachment of the poly. Spray glue and duct tape must both be used for floor seams. Floor seams must overlap a minimum of 6 feet (1800mm) or be at right angles to each other. The top sheet of poly must be able to be removed independently of the bottom layer. A third loose layer of 6 mil poly shall be used in the area of removal and periodically picked up to reduce contamination of the initial layers.
- B. Walls: All walls in the regulated area, including critical barriers, shall be covered with 2 layers of 6 mil fire retardant poly, mechanically supported and sealed with duct tape and/or spray glue. Tape all joints, including the floor-wall joint, with duct tape/spray glue. All wall joints must overlap at least 6 feet (1800mm).
- C. Stairs and Ramps: Stairs or ramps covered in poly must be provided with 3/4" (36mm) exterior grade plywood treads securely held in place over the poly. Do not cover stairs or ramps with unsecured poly. Do not cover rungs or rails with any protective materials.

3.3.6 EXTENSION OF THE REGULATED AREA

If the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. If the affected area cannot be added to the regulated area, decontamination measures must be started immediately and continue until air monitoring indicates background levels are met.

3.3.7 FLOOR BARRIERS

Except for floor/floor mastic all floors in the regulated area shall be covered with 2 layers of 6 mil fire retardant poly and brought up the wall 12 inches. An additional 6 mil layer of poly shall be used as a drop cloth beneath all Class I and Class II OSHA Asbestos Work.

3.4 REMOVAL

3.4.1 GENERAL

The Owner and/or Owner's Representative must be notified at least 24 hours in advance of any waste removed from the containment. All applicable requirements of OSHA, EPA, and DOT shall be followed during removal. Keep materials intact; do not disturb; wet while working with it; wrap as soon as possible with 2 layers of 6 mil plastic for disposal.

3.4.2 WET REMOVAL OF ACM

In no event shall dry removal occur; all materials must be adequately wetted prior to its removal. In no event shall any removed wetted material be allowed to accumulate and dry-out. All removed wetted materials must be containerized and sealed once the container is full immediately upon its removal.

- A. Use amended water for the wetting of ACM prior to removal. The Competent Person shall assure the wetting of ACM meets the definition of "adequately wet" in the EPA NESHAP regulation and OSHA's "wet methods" for the duration of the project. A removal encapsulant may be used instead of amended water with written approval of the Owner.
- B. Amended Water: Provide water to which a surfactant has been added shall be used to wet the ACM and reduce the potential for fiber release during disturbance of ACM. The mixture must be equal to or greater than the wetting provided by water amended by a surfactant consisting of one ounce of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with 5 gallons (19L) of water.
- C. Removal Encapsulant: When authorized by Owner's Representative, provide a penetrating encapsulant designed specifically for the removal of ACM. The material must, when used, result in adequate wetting of the ACM and retard fiber release during removal.
- D. Adequately and thoroughly wet the ACM to be removed prior to removal to reduce/prevent fiber release to the air. Adequate time must be allowed for the amended water to saturate the ACM. Abatement personnel must not disturb dry ACM. Use a fine spray of amended water or removal encapsulant. Saturate the material sufficiently to wet to the substrate without causing excessive dripping. The material must be sprayed repeatedly/continuously during the removal process in order to maintain adequately wet conditions. Removal encapsulants must be applied in accordance with the manufacturer's written instructions. Perforate or carefully separate, using wet methods, an outer covering that is painted or jacketed in order to allow penetration and wetting of the material. Where necessary, carefully remove covering while wetting to minimize fiber release. **In no event shall dry removal occur except in the case of electrical hazards or a greater safety issue is possible.**
- E. If ACM does not wet well with amended water due to coating or jacketing, remove as follows:
 1. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.
 2. Remove saturated ACM in small sections. Do not allow material to dry out. As material is removed, bag material, while still wet into disposal bags. Twist the bag neck tightly, bend over (gooseneck) and seal with a minimum of three tight wraps of duct tape. Clean /decontaminate the outside of the bag of any residue and move to washdown station adjacent to W/EDF.

3.4.9 LOCKDOWN ENCAPSULATION

General: Lockdown encapsulation is an integral part of the ACM removal. At the conclusion of ACM removal and before removal of the primary barriers, all surfaces shall be encapsulated with an asbestos lockdown encapsulant.

3.5 DISPOSAL OF WASTE MATERIAL

3.5.1 GENERAL

Any waste stored temporarily onsite prior to being transported to the landfill, must be stored in a fully enclosed, locked container and labeled according to all applicable federal, state, and local regulations. **No unsecured storage, open-top storage, or open-top dumpsters storage shall be permitted onsite or permitted to transport waste.**

Dispose of waste ACM and debris which is packaged in accordance with these specifications, OSHA, EPA, and DOT. The landfill requirements for packaging must also be met. Transport will be in compliance with 49 CFR 100–185 regulations. Disposal shall be done at an approved landfill in accordance with applicable federal, state, and local regulations.

3.5.2 PROCEDURES

- A. The Owner and/or Owner's Representative must be notified at least 24 hours in advance of any waste to be removed from containments.
- B. Asbestos waste shall be packaged and moved through the W/EDF into a covered transport container in accordance with procedures in this specification. Waste shall be double-bagged and wetted with amended water prior to disposal. Wetted waste can be very heavy. Bags shall not be overfilled. Bags shall be securely sealed to prevent accidental opening and/or leakage. The top shall be tightly twisted and goose necked prior to tightly sealing with at least three wraps of duct tape. Ensure that unauthorized persons do not have access to the waste material once it is outside the regulated area. All transport containers must be covered at all times when not in use. NESHAP/OSHA signs must be on containers during loading and unloading. Waste shall not be permitted to be stored or transported in open top vehicles or open top dumpsters. If drums are used for packaging, the drums shall be labeled properly and shall not be re-used.
- C. Waste Load Out: Waste load out shall be done in accordance with the procedures in W/EDF Decontamination Procedures. Sealed waste bags shall be decontaminated on exterior surfaces by wet cleaning and/or HEPA vacuuming before being placed in the second waste bag and sealed, which then must also be wet wiped or HEPA vacuumed.
- D. Asbestos waste with sharp edged components, i.e., nails, screws, lath, strapping, tin sheeting, jacketing, metal mesh, etc., which might tear poly bags shall be wrapped securely in burlap before packaging and, if needed, use a poly lined fiber drum as the second container, prior to disposal.

3.6 PROJECT DECONTAMINATION

3.6.1 GENERAL

- A. The entire work related to project decontamination shall be performed under the close supervision and monitoring of the Abatement Contractor's Competent Person.
- B. If the asbestos abatement work is in an area which was contaminated prior to the start of abatement, the decontamination will be done by cleaning the primary barrier poly prior to its removal and cleanings of the surfaces of the regulated area after the primary barrier removal.
- C. If the asbestos abatement work is in an area which was uncontaminated prior to the start of abatement, the decontamination will be done by cleaning the primary barrier poly prior to its removal, thus preventing contamination of the building when the regulated area critical barriers are removed.

3.6.2 REGULATED AREA CLEARANCE

Visual inspection and other requirements which must be met before release of the Abatement Contractor and re-occupancy of the regulated area space are specified in Final Testing Procedures.

3.6.3 WORK DESCRIPTION

Decontamination includes the cleaning and clearance of the air in the regulated area and the decontamination and removal of the enclosures/facilities installed prior to the abatement work including primary/critical barriers, PDF and W/EDF facilities.

3.6.4 PRE-DECONTAMINATION CONDITIONS

- A. Before decontamination starts, all ACM waste from the regulated area shall be removed, all waste collected and removed, and the secondary barrier of poly removal and disposed of along with any gross debris generated by the work.
- B. At the start of decontamination, the following shall be in place:
 1. Critical barriers over all openings consisting of two layers of 6 mil poly which is the sole barrier between the regulated area and the rest of the building or outside.
 2. Decontamination facilities, if required for personnel and equipment in operating condition.

3.6.5. CLEANING

Carry out a first cleaning of all surfaces of the regulated area including items of remaining poly sheeting, tools, scaffolding, ladders/staging by wet methods and/or HEPA vacuuming. Do not use dry dusting/sweeping/air blowing methods. Use each surface of a wetted cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible residue from abated surfaces or poly or other surfaces. Remove all filters in the air handling system and dispose of as ACM waste in accordance with these specifications. The negative pressure system shall remain in operation during this time. Additional cleaning(s) may be needed as determined by the Owner's Representative.

3.7 VISUAL INSPECTION AND AIR CLEARANCE TESTING

3.7.1 GENERAL

Notify the Owner at least 5 business days in advance when all abatement activities are anticipated to be complete. The Owner will notify the third-party consultant (i.e., Owner's Representative) in advance to be available on the anticipated date to conduct a final visual inspection and final air clearance testing. The final visual inspection and final air clearance testing will be performed by the Owner's Representative after all final cleaning and lockdown encapsulant has been completed.

3.7.2 VISUAL INSPECTION

Final visual inspection will include the entire regulated area, all poly sheeting, seals over HVAC openings, doorways, windows, and any other openings. If any debris, residue, dust, or any other suspect material is detected, the cleaning shall be repeated at no cost to the Owner. When the regulated area is visually clean the final air clearance testing can be conducted.

3.7.3 AIR CLEARANCE TESTING

- A. For indoor abatement work, air clearance testing will be conducted after successfully meeting with the Owner's Representative's visual inspection approval. For outdoor abatement work, only a final visual inspection will be conducted by the Owner's Representative (air clearance testing is not required outdoors). If no electricity is available within the building for connection and use for high volume air sampling pumps, the Abatement Contractor shall be required to provide the Owner's Representative with sufficient connection to their portable electrical generator source and electrical cords of sufficient length to power 5 high volume air sampling pumps for a duration of approximately 120 minutes.

3.7.4 FINAL AIR CLEARANCE PROCEDURES

- A. Contractor's Release Criteria for Indoor Work: Work in an indoor regulated area is complete when the regulated area is visually clean and airborne fiber levels have been reduced to or below 0.01 f/cc as measured by PCM protocol.
- B. Final Clearance Sampling: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to the specified level, the Owner's Representative will secure 5 PCM air samples and analyze them according to the following procedures:
 - 1. Fibers Counted: "Fibers" referred to in this section shall be either all fibers regardless of composition as counted in the NIOSH 7400 PCM method or asbestos fibers counted using the AHERA TEM method.
 - 2. All final air testing samples collected on 0.8 μ MCE filters for PCM analysis. A minimum of 1,200 Liters of using calibrated pumps shall be collected for clearance samples. Air samples will be collected in areas subject to normal air circulation away from corners, obstructed locations, and locations near windows, doors, or vents. After air sampling pumps have been shut off. The negative pressure system shall continue to operate.

3.6.5 CLEARANCE SAMPLING USING PCM:

- A. The Owner's Representative will perform clearance sampling as indicated by the specification.
- B. The NIOSH 7400 PCM method will be used for clearance sampling with a minimum collection volume of 1,200 liters of air. A minimum of 5 PCM clearance samples shall be collected per work area. Each of the 5 air samples must have a result of equal to or less than 0.01 f/cc to clear the regulated area.

3.6.7 LABORATORY TESTING OF PCM CLEARANCE SAMPLES

The accredited laboratory shall be successfully participating in the AIHA Proficiency Analytical Testing (PAT) program. Once received, the Owner's Representative will share the results with the Owner and the Abatement Contractor. Failed clearance tests will require the Contractor to reclean the work area at their own expense until passing results have been successfully achieved.

3.8 ABATEMENT CLOSEOUT AND CERTIFICATE OF COMPLIANCE

3.8.1 COMPLETION OF ABATEMENT WORK

- A. After thorough decontamination, complete asbestos abatement work upon meeting the regulated area clearance criteria (visual inspection clearance) and fulfilling the following:

1. Remove all equipment, materials, and debris from the project area.
2. Package and dispose of all asbestos waste as required.
3. Repair or replace all interior finishes damaged during the abatement work.
4. Fulfill other project closeout requirements as specified elsewhere in this specification.

3.8.2 CERTIFICATE OF COMPLETION BY CONTRACTOR

The Contractor shall complete and sign the "Certificate of Completion" in accordance with Attachment 1 at the completion of the abatement and decontamination of the regulated areas.

3.8.3 WORK SHIFTS

All other work shall be done during normal business hours (7:00 AM to 5:00 PM) Monday - Friday excluding Federal Holidays. The Asbestos Abatement Contractor must coordinate with the General Contractor (if applicable) and Owner on work areas and scheduling. Any change in the work schedule must be approved in writing by the Owner.

**ATTACHMENT #1
CERTIFICATE OF COMPLETION**

DATE: _____ Owner's Project #: _____

PROJECT NAME: _____ Abatement Contractor: _____

ADDRESS: _____

1. I certify that I have personally inspected, monitored and supervised the abatement work of (specify regulated area or Building):
which took place from / / to / /
2. That throughout the work all applicable requirements/regulations and the specifications were met.
3. That any person who entered the regulated area was protected with the appropriate personal protective equipment and respirator and that they followed the proper entry and exit procedures and the proper operating procedures for the duration of the work.
4. That all employees of the Abatement Contractor engaged in this work were trained in respiratory protection, were experienced with abatement work, had proper medical surveillance documentation, were fit-tested for their respirator, and were not exposed at any time during the work to asbestos without the benefit of appropriate respiratory protection.
5. That I performed and supervised all inspection and testing specified and required by applicable regulations and Owner specifications.
6. That the conditions inside the regulated area were always maintained in a safe and healthy condition and the maximum fiber count never exceeded 0.5 f/cc, except as described below.
7. That all abatement work was done in accordance with OSHA requirements and the manufacturer's recommendations.

Abatement Contractor Signature/Date: _____

Abatement Contractor Print Name: _____

ATTACHMENT #2

CERTIFICATE OF WORKER'S ACKNOWLEDGMENT

PROJECT NAME: _____ DATE: _____

PROJECT ADDRESS: _____

ABATEMENT CONTRACTOR'S NAME: _____

WORKING WITH ASBESTOS CAN BE HAZARDOUS TO YOUR HEALTH. INHALING ASBESTOS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCERS. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, YOUR CHANCES OF DEVELOPING LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You must be supplied with the proper personal protective equipment including an adequate respirator and be trained in its use. You must be trained in safe and healthy work practices and in the use of the equipment found at an asbestos abatement project. You must receive/have a current medical examination for working with asbestos. These things shall be provided at no cost to you. By signing this certificate, you are indicating to the Owner that your employer has met these obligations.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators and have been informed of the type of respirator to be used on the above indicated project. I have a copy of the written Respiratory Protection Program issued by my employer. I have been provided for my exclusive use, at no cost, with a respirator to be used on the above indicated project.

TRAINING COURSE: I have been trained by a third party, State/EPA accredited trainer in the requirements for an AHERA/OSHA Asbestos Abatement Worker training course, 32 hours minimum duration. I currently have a valid State accreditation certificate. The topics covered in the course include, as a minimum, the following:

- Physical Characteristics and Background Information on Asbestos
- Potential Health Effects Related to Exposure to Asbestos
- Employee Personal Protective Equipment
- Establishment of a Respiratory Protection Program
- State of the Art Work Practices
- Personal Hygiene
- Additional Safety Hazards
- Medical Monitoring
- Air Monitoring
- Relevant Federal, State and Local Regulatory Requirements, Procedures, and Standards
- Asbestos Waste Disposal

MEDICAL EXAMINATION: I have had a medical examination within the past 12 months which was paid for by my employer. This examination included: health history, occupational history, pulmonary function test, and may have included a chest x-ray evaluation. The physician issued a positive written opinion after the examination.

Signature: _____

Printed Name: _____

ATTACHMENT #3

AFFIDAVIT OF MEDICAL SURVEILLANCE, RESPIRATORY PROTECTION AND TRAINING/ACCREDITATION

PROJECT NAME AND NUMBER: _____

FACILITY: _____

ABATEMENT CONTRACTOR'S NAME AND ADDRESS: _____

1. I verify that the following individual

Name: _____

who is proposed to be employed in asbestos abatement work associated with the above project by the named Abatement Contractor, is included in a medical surveillance program in accordance with 29 CFR 1926.1101(m), and that complete records of the medical surveillance program as required by 29 CFR 1926.1101 (m)(n) and 29 CFR 1910.20 are kept at the offices of the Abatement Contractor at the following address.

Address: _____

2. I verify that this individual has been trained, fit-tested and instructed in the use of all appropriate respiratory protection systems and that the person is capable of working in safe and healthy manner as expected and required in the expected work environment of this project.
3. I verify that this individual has been trained as required by 29 CFR 1926.1101(k). This individual has also obtained a valid State accreditation certificate. Documentation will be kept on-site.
4. I verify that I meet the minimum qualifications criteria of the specifications.

Signature of Abatement Contractor: _____ Date: _____

Printed Name of Abatement Contractor: _____

ATTACHMENT #4

ABATEMENT CONTRACTOR REVIEW AND ACCEPTANCE OF THE OWNER'S ASBESTOS SPECIFICATIONS

Project Location: _____

Owner's Project #: _____

Project Description: _____

This form shall be signed by the Asbestos Abatement Contractor prior to any start of work at the site related to this Specification. If the Asbestos Abatement Contractor has not signed this form, they shall not be allowed to work on-site.

I, the undersigned, have read the Asbestos Abatement Specification regarding the asbestos abatement requirements. I understand the requirements of the Owner's Asbestos Specification and agree to follow these requirements as well as all required rules and regulations of OSHA/EPA/DOT and State/Local requirements. I have been given ample opportunity to read the Asbestos Abatement Specification and have been given an opportunity to ask any questions regarding the content and have received a response related to those questions. I do not have any further questions regarding the content, intent and requirements of the Asbestos Abatement Specification.

At the conclusion of the asbestos abatement, I will certify that all asbestos abatement work was done in accordance with the Asbestos Abatement Specification and all ACM was removed properly and no fibrous residue remains on any abated surfaces.

Abatement Contractor Signature _____ Date _____

Abatement Contractor Printed Name _____

ATTACHMENT #5: EXTENT OF ABATEMENT WORK

**Fayette County Public School
 2160 Versailles Road
 Lexington, Kentucky 40511**

ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Category	Estimated Quantity*
MAIN HOUSE				
Base Coat within Plaster Wall/Ceiling System	Main House: Throughout	0.50% Chrysotile by Point Count (PC)	Not Regulated (<1% by point count); However, Regulated by OSHA	16,000 Square Feet (SF)
White Duct Tape	Main House: Associated with Heating, Ventilating and Air-Conditioning (HVAC) Ductwork and Vents Throughout**	65% Chrysotile	Regulated Asbestos-Containing Material (RACM)	200 SF
White Exterior Door Caulking	Main House: Front Door	5% Chrysotile	Category II Non-Friable	2 SF or 1 Door
White Exterior Window Caulking	Main House: Associated with Windows	5% Chrysotile	Category II Non-Friable	40 SF or 20 Windows
White Exterior Window Glazing	Associated with Windows in Connecting Room Between Main House and East Addition	2.5% Chrysotile by PC	Category II Non-Friable	40 SF or 10 Windows
White Exterior Window Caulking	Associated with Windows in Connecting Room Between Main House and East Addition	5% Chrysotile	Category II Non-Friable	
Brown Exterior Door Caulking with Non-Asbestos-Containing White Door Caulking	Associated with Front Door of East Addition	5% Chrysotile	Category II Non-Friable	2 SF or 1 Door
Brown Exterior Window Caulking with Non-Asbestos-Containing White Window Caulking	Associated with Windows of East Addition	3% Chrysotile	Category II Non-Friable	30 SF or 15 Windows
White/Brown Exterior Window Caulking with Non-Asbestos-Containing Clear Window Caulking	Main House: Associated with Dining Room West Window	5% Chrysotile	Category II Non-Friable	2 SF or 1 Window
Gray Exterior Door Caulking	West Addition: West Entry Door and Kitchen Door	5% Chrysotile	Category II Non-Friable	4 SF or 2 Doors

ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Category	Estimated Quantity*
Brown Exterior Window Caulking	West Addition: Associated with Windows	5% Chrysotile	Category II Non-Friable	26 SF or 13 Windows
GUEST HOUSE/GARAGE				
Vermiculite Fill Insulation	Garage/Guest House: Attic	<0.25% Tremolite by PC	Not Regulated (<1% by point count); However, Regulated by OSHA	2,500 SF
Joint Compound within the Drywall System	Garage/Guest House: Throughout 1st Floor of Guest House Area and Closet on Second Floor	Drywall: None Detected Joint Compound: 0.50% Chrysotile by PC, Composite: 0.05% Chrysotile by PC	Not Regulated (composite <1% by point count); However, Regulated by OSHA	~ 975 SF
White Exterior Window Caulking with Non-Asbestos-Containing Red Exterior Window Caulking	Garage/Guest House: Associated with exterior windows	2% Chrysotile	Category II Non-Friable	40 SF or 20 Windows
Glue Dots Behind Mirrors	Main House: Basement Workout Room	Assumed ACM >1%, Not Sampled Due to Safety & Irreparable Damage	Category II Non-Friable	50 SF

*** Quantities are for informational purposes only, the Abatement Contractor is solely responsible for determining their opinion of quantities to be removed.**

** Material was only observed in the connecting corridor between the main house and east addition. However, the material has been assumed to be throughout the main house hidden in the walls and crawl spaces. The Asbestos Abatement Contractor shall remove all asbestos containing white duct tape present.

Fayette County Public School
2160 Versailles Road, Lexington, KY

ATTACHMENT #6: ASBESTOS INSPECTION REPORT AUGUST 2023

Asbestos Inspection Report

Residential Property

2160 Versailles Road

Lexington, Kentucky 40510

August 16, 2023 | Terracon Project Number: N1237347



Prepared for:

Fayette County Public Schools
Lexington, Kentucky



Prepared by:

Terracon Consultants, Inc.
Cincinnati, Ohio



Nationwide
Terracon.com

- Facilities
- Environmental
- Geotechnical
- Materials



611 Lunken Park Drive
Cincinnati, OH 45226
P (513) 321-5816
Terracon.com

August 16, 2023

Fayette County Public Schools
128 Walton Avenue
Lexington, Kentucky 40511

Attn: Mr. Jeff Harris
T: (859) 281-0703
E: jeff.harris@fayette.kyschools.us

Re: Asbestos Inspection Report
Residential Property
2160 Versailles Road
Lexington, Kentucky 40510
Terracon Project No. N1237347

Dear Mr. Harris:

Terracon Consultants, Inc. (Terracon) is pleased to submit the attached asbestos inspection report for the above-referenced project to Fayette County Public Schools (Client). The purpose of this report is to present the results of an asbestos inspection which was performed at the site on August 2, 3, and 4, 2023. The asbestos inspection was conducted under Environmental Health and Safety Contract #10929 (dated July 1, 2023; between Terracon and Fayette County Public Schools) and purchase order number 44000398. We understand that this inspection was requested for the purpose of the future planned demolition of the residential site structures located at 2160 Versailles Road in Lexington, Kentucky.

Asbestos-containing materials (ACM) were identified as a result of this inspection. Please refer to the attached report for further detail.

Terracon appreciates the opportunity to provide this service to Fayette County Public Schools. If you have any questions regarding this report, please contact the undersigned at 513-321-5816.

Sincerely,
Terracon Consultants, Inc.

A handwritten signature in black ink, appearing to read 'Joshua Vogel'.

Joshua Vogel
Group Manager

A handwritten signature in black ink, appearing to read 'Joseph A. Tussey'.

Joseph A. Tussey, CHMM
Principal

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ASBESTOS INSPECTION REPORT

Residential Property
2160 Versailles Road
Lexington, Kentucky 40510
Terracon Project No. N1237347
August 16, 2023

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted an asbestos inspection regarding the existing residential site structures located at 2160 Versailles Road in Lexington, Kentucky. The inspection was conducted on August 2, and 4, 2023 by Kentucky Department of Environmental Protection (KY DEP) Division of Air Quality (DAQ)-licensed asbestos management planners. Accessible building components were inspected, and homogeneous areas of suspect accessible asbestos-containing materials (ACM) were visually identified and documented. Although reasonable effort was made to inspect for accessible suspect materials, additional suspect but un-sampled materials could be located in walls, in voids, in equipment, or in other concealed areas. Bulk samples from suspect ACM were collected in general accordance with the sampling protocols outlined in United States Environmental Protection Agency (USEPA) 40 Code of Federal Regulations (CFR) Part 763, Subpart E, known as the Asbestos Hazard Emergency Response Act (AHERA). Collected bulk samples were delivered to an accredited laboratory for asbestos content analysis by polarized light microscopy (PLM).

1.1 Project Objective

We understand that this inspection was requested for the future planned demolition of the existing residential site structures located at 2160 Versailles Road in Lexington, Kentucky. Asbestos inspections are required prior to renovation and demolition activities to satisfy requirements of the USEPA 40 CFR Part 61, Subpart M, the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation and Kentucky Administrative Regulation (KAR) 401 58:025.

1.2 Reliance

This report is for the exclusive use of Fayette County Public Schools (Client) for the project being discussed. Reliance by any other party on this report is prohibited without written authorization of Terracon and the Client. Reliance on this report by the Client and all authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, this report, and the Agreement between Terracon and the Client. The limitations of liability defined in the Agreement is the aggregate limit of Terracon's liability to the Client.

2.0 SITE DESCRIPTION

The residential property located at 2160 Versailles Road in Lexington, Kentucky consists of the following site structures:

- **Main House with East Addition and West Addition:** The main house consists of approximately 9,000 square feet of interior floor space. The center portion of the main house consists of 3 floors with a basement and is made up of 7 bedrooms, 5 ½ bathrooms, formal living room, living room, formal dining room, and den. The east addition to the main house consist of two-stories with a basement and consist of a basketball gym, workout room with spa, ballroom, movie theatre, office, and three full bathrooms. The west addition consist of two-stories with a basement and consists of two kitchens, staff dining room, two staff bedrooms and one bathroom. The age of the main house and 2 additions were unknown to Terracon.
- **Guest House/Garage:** The guest house and garage structure consist of approximately 5,000 square feet of interior floor space with a partial basement. The guest house consists of a studio apartment on the first floor and a second-floor apartment with 5-bedrooms, 2 bathrooms, and a kitchen. The age of the structure was unknown to Terracon.
- **Maintenance Garage:** The maintenance garage is a single-story building with approximately 3,100 square feet of interior floor space made up of a kennel, office, restroom, and garage bays. The age of the structure was unknown to Terracon.
- **Pool Shed:** The pool shed is a single-story structure with approximately 150 square feet of interior floor space and houses equipment for an inground swimming pool, tennis court, and volleyball courts. The age of the structure was unknown to Terracon.
- **Pool Bathhouse:** The pool bathhouse is a single-story structure with approximately 300 square feet of interior floor space and consists of a kitchenette, restroom, and shower. The age of the structure was unknown to Terracon.
- The property also features a four-story unfinished concrete silo, two gazebos (one by the main house and one by a pond), an inground swimming pool, a fishing dock, a greenhouse, a treehouse, a tennis court, a volleyball court, a shuffleboard court, baseball field, and a playground.

Appendix E includes general diagrams (not to scale) of the site structures.

3.0 FIELD ACTIVITIES

The inspection was conducted by Mr. Lem Weyer and Mr. Joshua Vogel who are KY DEP DAQ-licensed asbestos management planners. Copies of their current KY DEP DAQ credentials are attached in Appendix D. The inspection was conducted in general accordance with the sample collection protocols established in USEPA 40 CFR Part 763, Subpart E, Section 763.86, AHERA. A summary of inspection activities is provided below.

3.1 Visual Assessment

Inspection activities were initiated with visual observation of the accessible interior and exterior areas of the subject site structures to identify homogeneous areas of accessible suspect ACM. A homogeneous area (HA) consists of building materials that appear similar throughout in terms of color and texture with consideration given to the date of application.

Please note that suspect ACMs were not observed in association with the two gazebo structures, the fishing dock, the concrete silo, the playground, the tennis court, the shuffleboard court, the volleyball court, and the baseball field.

Electrical equipment, electrical lines, and active equipment were not included in this inspection as such items present a safety hazard to the inspectors.

3.2 Physical Assessment

A physical assessment of each HA of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the USEPA as a material which can be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

3.3 Sample Collection

Based on results of the visual observation, bulk samples from suspect ACM were collected in general accordance with USEPA AHERA sampling protocols. Samples of suspect materials were collected from randomly selected locations in each homogeneous area. Bulk samples were collected using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

The selection of sample locations and frequency of sampling were based on Terracon's observations and the assumption that like materials in the same area are homogeneous in content.

Terracon collected a total of 384 bulk samples from 117 homogeneous areas of suspect ACM. A summary table of samples collected from homogenous areas of suspect ACM is included in Appendix B. Sample locations are indicated on diagrams included in Appendix E.

3.4 Sample Analysis

Bulk samples were submitted under chain of custody to Eurofins CEI of Cary, North Carolina for analysis by PLM with dispersion staining techniques per USEPA methodology 600/R-93/116. The percentage of asbestos, where applicable, was determined by microscopic visual estimation using PLM. When applicable for samples from friable materials determined by PLM to have a low asbestos-content, the additional point count (PC) method (400 points) was utilized for a more accurate quantification of asbestos. For drywall system materials (drywall/gypsum board and joint compound), samples were composite analyzed (drywall/gypsum board and joint compound analyzed together) when a layer was identified to contain asbestos. Composite analysis of drywall system samples is permitted under NESHAP and the state NESHAP-equivalent regulation. However, the Occupational Safety and Health Administration (OSHA) only recognizes layer results, therefore, analysis for each individual drywall system sample layer was also conducted and the result per layer presented.

Eurofins CEI is accredited for bulk asbestos analysis by PLM under the National Voluntary Laboratory Accreditation Program (NVLAP), accreditation number 101768-0. A summary of results is included with the summary of collected samples in Appendix B. The laboratory analytical report is included in Appendix C.

4.0 REGULATORY OVERVIEW

The federal asbestos NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. The asbestos NESHAP regulation also requires the identification and classification of existing ACM according to friability prior to demolition or renovation activity. Friable ACM is a material containing more than 1% asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure. All friable ACM is considered regulated asbestos containing material (RACM).

The asbestos NESHAP regulation classifies material subject to demolition or renovation as either RACM, Category I non-friable ACM, or Category II non-friable ACM. RACM includes all friable ACM (pre-disturbance), along with Category I non-friable ACM that becomes friable (during disturbance), and Category I non-friable ACM subject to sanding, grinding, cutting, or abrading, or Category II non-friable ACM with a high probability of becoming crumbled, pulverized, or reduced to powder by forces expected to act on the material during disturbance. Category I non-friable ACM are exclusively asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products that contain more than 1% asbestos. Category II non-friable ACM are all other non-friable materials (other than Category I non-friable ACM) that contain more than 1% asbestos. Category II non-friable ACM generally includes (but is not limited to) cementitious material such as: cement pipes, cement siding (Transite™), cement panels, glazing, mortar, and grouts.

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In Kentucky, the federal NESHAP regulation has been delegated to the state EPA and is administered under 401 Kentucky Administrative Regulation (KAR) 58:025. The Kentucky Department for Environmental Protection (DEP), Division for Air Quality (DAQ) is responsible for administering and enforcing the federal and state NESHAP regulations as well as administering accreditations for asbestos professionals. NESHAP pre-abatement notifications (where >160 SF / 260 LF of friable ACM is removed) and pre-demolition notifications are sent to the regional state EPA DAQ office 10 business days prior to project commencement. The Kentucky local regional DAQ office for the subject project site is the Frankfort Region; 300 Sower Boulevard, 1st Floor, Frankfort, Kentucky 40601; telephone (502-564-3358); contact Mr. Eli Caudill (jamese.caudill@ky.gov). Additional information regarding asbestos regulations and prior notifications in Kentucky can be found at the following web address: <https://eec.ky.gov/Environmental-Protection/Air/asbestos/Pages/default.aspx>.

The United States Occupational Safety and Health Administration (USOSHA) asbestos standard for construction (29 CFR 1926.1101) regulates workplace exposure to asbestos. The USOSHA standard requires that employee exposure to airborne asbestos must not exceed 0.1 fibers per cubic centimeter of air (0.1 f/cc) as an eight-hour time weighted average (TWA) and not exceed 1.0 fibers per cubic centimeter of air (1.0 f/cc) over a 30-minute time period known as an excursion limit (EL). The TWA and EL are known as USOSHA's asbestos permissible exposure limits (PELs). The USOSHA standard classifies construction and maintenance activities which could disturb ACM and specifies work practices and precautions which employers must follow when engaging in each class of regulated work.

5.0 FINDINGS AND RECOMMENDATIONS

With respect to this asbestos inspection, asbestos was identified by laboratory in the following materials listed below:

ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Category	Estimated Quantity*
Base Coat within Plaster Wall/Ceiling System	Main House: Throughout	0.50% Chrysotile by Point Count (PC)	Not Regulated (<1% by point count); However, Regulated by OSHA	16,000 Square Feet (SF)
White Duct Tape	Main House: Associated with Heating, Ventilating and Air-Conditioning (HVAC) Ductwork and Vents Throughout**	65% Chrysotile	Regulated Asbestos-Containing Material (RACM)	200 SF
White Exterior Door Caulking	Main House: Front Door	5% Chrysotile	Category II Non-Friable	2 SF or 1 Door
White Exterior Window Caulking	Main House: Associated with Windows	5% Chrysotile	Category II Non-Friable	40 SF or 20 Windows

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ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Category	Estimated Quantity*
White Exterior Window Glazing	Associated with Windows in Connecting Room Between Main House and East Addition	2.5% Chrysotile by PC	Category II Non-Friable	40 SF or 10 Windows
White Exterior Window Caulking	Associated with Windows in Connecting Room Between Main House and East Addition	5% Chrysotile	Category II Non-Friable	
Brown Exterior Door Caulking with Non-Asbestos-Containing White Door Caulking	Associated with Front Door of East Addition	5% Chrysotile	Category II Non-Friable	2 SF or 1 Door
Brown Exterior Window Caulking with Non-Asbestos-Containing White Window Caulking	Associated with Windows of East Addition	3% Chrysotile	Category II Non-Friable	30 SF or 15 Windows
White/Brown Exterior Window Caulking with Non-Asbestos-Containing Clear Window Caulking	Main House: Associated with Dining Room West Window	5% Chrysotile	Category II Non-Friable	2 SF or 1 Window
Gray Exterior Door Caulking	West Addition: West Entry Door and Kitchen Door	5% Chrysotile	Category II Non-Friable	4 SF or 2 Doors
Brown Exterior Window Caulking	West Addition: Associated with Windows	5% Chrysotile	Category II Non-Friable	26 SF or 13 Windows
Vermiculite Fill Insulation	Garage/Guest House: Attic	<0.25% Tremolite by PC	Not Regulated (<1% by point count); However, Regulated by OSHA	2,500 SF
Joint Compound within the Drywall System	Garage/Guest House: Throughout 1st Floor of Guest House Area and Closet on Second Floor	Drywall: None Detected Joint Compound: 0.50% Chrysotile by PC, Composite: 0.05% Chrysotile by PC	Not Regulated (composite <1% by point count); However, Regulated by OSHA	~ 975 SF
White Exterior Window Caulking with Non-Asbestos-Containing Red Exterior Window Caulking	Garage/Guest House: Associated with exterior windows	2% Chrysotile	Category II Non-Friable	40 SF or 20 Windows
Glue Dots Behind Mirrors	Main House: Basement Workout Room	Assumed ACM >1%, Not Sampled Due to Safety & Irreparable Damage	Category II Non-Friable	50 SF

*Estimated quantities listed above are based on a cursory field evaluation, and actual quantities may vary significantly, especially if ACMs are present in hidden and/or inaccessible areas not evaluated as part of this inspection. This is not a bidding document and contractors would be responsible for drawing their own conclusions regarding quantities present.

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**Material was only observed in the connecting corridor between the main house and east addition. The material is assumed to be throughout the main house hidden in the walls and crawl spaces.

Asbestos was not identified by laboratory analysis in the samples collected from the inground swimming pool, maintenance building, treehouse, greenhouse, pool bathhouse, and pool shed. Please note that suspect ACMs were not observed in association with the two gazebo structures, the fishing dock, the concrete silo, the playground, the tennis court, the shuffleboard court, the volleyball court, and the baseball field.

The identified ACMs which contain >1% asbestos must be addressed by the owner and operator (of the demolition) per the federal NESHAP and state-equivalent NESHAP regulations. Under these regulations, it's the owner's and operator's responsibility to properly address Regulated Asbestos-Containing Materials (RACM), Category I Non-Friable ACM, and Category II Non-Friable ACM for federal and state regulatory compliance regarding demolition activities. The federal and state-equivalent NESHAP regulation requires all RACM (friable ACM) to be removed by a state-licensed asbestos abatement contractor before demolition activities. The state-licensed abatement contractor must provide the Kentucky Department of Environmental Protection Division of Air Quality (KY DEP DAQ) 10-business day notice prior to removal of RACM exceeding 160 total square feet or 260 total linear feet and the owner or operator must also provide KY DEP DAQ with a 10-business day notice prior to demolition activities. Additionally, the operator (contractor) must comply with Occupational Safety and Health Administration (OSHA) asbestos regulations, when disturbing any material containing any amount asbestos.

The identified materials are reiterated in a table included in Appendix A. A summary of samples collected along with summarized results is included in Appendix B. The laboratory analytical report is attached in Appendix C. Sample location diagrams (not to scale) are included in Appendix E. A photo log with example photos of identified ACM is included in Appendix F.

If any unsampled suspect materials are discovered during the course of demolition activities (e.g., materials concealed/hidden in walls; materials not listed in Appendix B), these materials must be assumed as asbestos-containing and addressed accordingly per federal and state asbestos regulations unless sampled by an accredited asbestos inspector and laboratory analysis refutes the positive assumption.

6.0 LIMITATIONS/GENERAL COMMENTS

Reasonable efforts to access suspect materials within known areas of restricted access (e.g., crawl spaces) were made; however, confined spaces or areas which may pose a health or safety risk to Terracon personnel were not sampled. This asbestos inspection was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results,

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findings, conclusions, and recommendations expressed in this report are based on conditions observed during our inspection of the buildings. The information contained in this report is relevant to the date on which this inspection was performed and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by Fayette County Public Schools for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding quantities and any further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories, or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied is made.



APPENDIX A

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HA No's.	ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Classification	Condition/Friability	Estimated Quantity*
16	Base Coat within Plaster Wall/Ceiling System	Main House: Throughout	0.50% Chrysotile by Point Count (PC)	Not Regulated (<1% by point count); However, Regulated by OSHA	Good	16,000 Square Feet (SF)
40	White Duct Tape	Main House: Associated with Heating, Ventilating and Air-Conditioning (HVAC) Ductwork and Vents Throughout * *	65% Chrysotile	Regulated Asbestos-Containing Material (RACM)	Good	200 SF
62	White Exterior Door Caulking	Main House: Front Door	5% Chrysotile	Category II Non-Friable	Good	2 SF or 1 Door
63	White Exterior Window Caulking	Main House: Associated with Windows	5% Chrysotile	Category II Non-Friable	Good	40 SF or 20 Windows
64	White Exterior Window Glazing	Associated with Windows in Connecting Room Between Main House and East Addition	2.5% Chrysotile by PC	Category II Non-Friable	Good	40 SF or 10 Windows
65	White Exterior Window Caulking	Associated with Windows in Connecting Room Between Main House and East Addition	5% Chrysotile	Category II Non-Friable	Good	2 SF or 1 Door
66	Brown Exterior Door Caulking with Non-Asbestos-Containing White Door Caulking	Associated with Front Door of East Addition	5% Chrysotile	Category II Non-Friable	Good	2 SF or 1 Door
67	Brown Exterior Window Caulking with Non-Asbestos-Containing White Window Caulking	Associated with Windows of East Addition	3% Chrysotile	Category II Non-Friable	Good	30 SF or 15 Windows

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HA No's.	ACM Description	Material Location	% and Type Asbestos	EPA NESHAP Classification	Condition/Friability	Estimated Quantity*
72	White/Brown Exterior Window Caulking with Non-Asbestos-Containing Clear Window Caulking	Main House: Associated with Dining Room West Window	5% Chrysotile	Category II Non-Friable	Good	2 SF or 1 Window
73	Gray Exterior Door Caulking	West Addition: West Entry Door and Kitchen Door	5% Chrysotile	Category II Non-Friable	Good	4 SF or 2 Doors
74	Brown Exterior Window Caulking	West Addition: Associated with Windows	5% Chrysotile	Category II Non-Friable	Good	26 SF or 13 Windows
105	Vermiculite Fill Insulation	Garage/Guest House: Attic	<0.25% Tremolite by PC	Not Regulated (<1% by point count); However, Regulated by OSHA	Good	2,500 SF
108	Joint Compound within the Drywall System	Garage/Guest House: Throughout 1st Floor of Guest House Area and Closet on Second Floor	Drywall: None Detected Joint Compound: 0.50% Chrysotile by PC, Composite: 0.05% Chrysotile by PC	Not Regulated (composite <1% by point count); However, Regulated by OSHA	Good	~ 975 SF
114	White Exterior Window Caulking with Non-Asbestos-Containing Red Exterior Window Caulking	Garage/Guest House: Associated with exterior windows	2% Chrysotile	Category II Non-Friable	Good	40 SF or 20 Windows
117	Glue Dots Behind Mirrors	Main House: Basement Workout Room	Assumed ACM >1%, Not Sampled Due to Safety & Irreparable Damage	Category II Non-Friable	Good	50 SF

* Estimated quantities listed above are based on a cursory field evaluation, and actual quantities may vary significantly, especially if ACMs are present in hidden and/or inaccessible areas not evaluated as part of this inspection. This is not a bidding document and contractors would be responsible for drawing their own conclusions regarding quantities present.

** Material was only observed in the connecting corridor between the main house and east addition. The material is assumed to be throughout the Main House hidden in the walls and crawl spaces.

See Appendix B for a summary of samples collected with respective analytical results, Appendix C for the laboratory analytical report, Appendix E for sample location diagrams, and Appendix F for photo examples of the above identified materials.

It should be noted that inaccessible/concealed suspect materials, other than those identified during this inspection, may exist. Should additional suspect materials be uncovered prior to or during demolition activities, those materials must be assumed asbestos-containing until sampled by a state-licensed asbestos inspector and analysis refutes the positive assumption.

APPENDIX B

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ASBESTOS INSPECTION SAMPLE & RESULTS SUMMARY

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
01	01	White Textured Walls/Ceilings	First Floor Southeast Corner of West Room	West Addition of Main House: Throughout on Plaster Walls	None Detected (ND)
	02		First Floor at Northwest Exit		ND
	03		Doorway to Pantry		ND
	04		Middle of Stairwell		ND
	05		Doorway to Second Floor Bathroom		ND
	06		North Window of Second Floor Stairwell		ND
	07		Top of Stairwell to Basement		ND
02	08	White Plaster Base Coat and White Finished Coat	Southwest Corner of Large Kitchen	West Addition of Main House: New Kitchen/Laundry Room	Base Coat: ND, Finished Coat: ND
	09		Northwest Corner of Laundry Room		Base Coat: ND, Finished Coat: ND
	10		Northwest Corner of Smaller Kitchen		Base Coat: ND, Finished Coat: ND
03	11	Gray Sink Undercoat	Smaller Kitchen Sink	West Addition of Main House: Kitchen Sinks, Laundry Room Sink	ND
	12		Large Kitchen Sink		ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	13		Laundry Room Sink		ND
04	14	Textured Walls	Southeast Corner	West Addition of Main House: Laundry Room	ND
	15		Middle South Wall		ND
	16		Middle East Wall		ND
05	17	3"x3" White Ceramic Wall Tile with Gray Grout and Gray Mastic	Smaller Kitchen Northeast Corner Entry	West Addition of Main House: Throughout Kitchens	Ceramic: ND, Mastic: ND, Grout: ND
	18		Large Kitchen Northeast Corner Entry		Ceramic: ND, Mastic: ND, Grout: ND
	19		Large Kitchen Southwest Corner Entry		Ceramic: ND, Mastic: ND, Grout: ND
06	20	White Interior Door Caulking	North Side of Door	West Addition of Main House: Associated with Northwest Exit Door	ND
	21		North Side of Door		ND
	22		North Side of Door		ND
07	23	White Interior Window Caulking	Northwest Corner Room North Window	West Addition of Main House: Associated with Interior Windows Throughout	ND
	24		Southwest Room Southwest Window		ND
	25		Laundry Room Window		ND
08	26	Gray Plaster Walls/Ceilings: Base Coat and Finished Coat	Southeast Corner of Laundry Room	West Addition of Main House: Walls/Ceilings Throughout First Floor	Base Coat: ND
	27		East Wall of Kitchen Pantry		Finished Coat: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	28		Near West Exit Door		Base Coat: ND, Finished Coat: ND
09	29	White Plaster Walls/Ceilings: Base Coat and Finished Coat	Center of First Floor West Dining Room Ceiling	West Addition of Main House: Walls/Ceilings	Base Coat: ND, Finished Coat: ND
	30		Second Floor West Bedroom Closet		Base Coat: ND, Finished Coat: ND
	31		Second Floor East Side of Staircase Below Window		Base Coat: ND, Finished Coat: ND
-	32	SAMPLE NUMBER SKIPPED - NOT USED			
10	33	Old Drywall System: Drywall and Joint Compound	Doorway of Second Floor Bathroom	West Addition of Main House: Old Drywall Throughout Second Floor and Stairwell	Drywall: ND, Joint Compound: ND
	34		West Bedroom Closet		Drywall: ND, Joint Compound: ND
	35		East Bedroom Closet		Drywall: ND, Joint Compound: ND
11	36	Tan Tar Paper	Southwest Corner of Large Kitchen	West Addition of Main House: Beneath Wood Floors	ND
	37		Southwest Corner of Southwest Room		ND
	38		Northwest Corner of Northwest Room		ND
12	39	2"x2" White Ceramic Floor Tile with Gray Grout, Yellow Mastic and Dark Gray/Light Gray Mortar (Two Layers)	Near Shower in Restroom	West Addition of Main House: Second Floor Restroom	Ceramic: ND, Dark Gray Mortar: ND, Light Gray Mortar: Mastic: ND, Grout: ND
	40		Near Shower in Restroom		Ceramic: ND, Dark Gray Mortar: ND, Light Gray Mortar: Mastic: ND, Grout: ND
	41		Near Shower in Restroom		Ceramic: ND, Dark Gray Mortar: ND, Light Gray Mortar: Mastic: ND, Grout: ND
13	42	White Exterior Window Glazing	Southwest Large Kitchen Window	West Addition of Main House:	ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	43		Southwest Room West Window	Associated with Exterior Windows	ND
	44		West Bedroom North Window		ND
14	45	24"x24" Black with White Marks Marble Flooring	North Vent	Corridor Between Main House and East Addition of House	ND
	46		North Vent		ND
	47		South Vent		ND
15	48	White Textured Walls	Center of West Wall	Corridor Between Main House and East Addition of House	ND
	49		Northeast Corner		ND
	50		Northwest Corner		ND
16	51	Plaster Walls/Ceilings: Gray/Brown Base Coat and White Finished Coat	First Floor Dining Room Middle East Wall	Main House: Throughout	Base Coat: ND, Finished Coat: ND
	52		First Floor Dining Room Middle South Wall		Base Coat: ND, Finished Coat: ND
	53		Second Floor Closet in Southwest Bedroom		Base Coat: ND, Finished Coat: ND
	54		Second Floor Closet in Northeast Corner Bedroom		Base Coat: ND, Finished Coat: ND
	55		Third Floor Closet in Northwest Corner Bedroom		Base Coat: ND, Finished Coat: ND
	56		Third Floor Closet in Northwest Corner Bedroom		Base Coat: ND, Finished Coat: ND
	57		First Floor Northeast		Base Coat: 0.50% Chrysotile by Point Count (PC), Finished Coat: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
			Corner of Formal Living Room		
17	58	White Interior Window Caulking	East Side of North Wall Central Window	Associated with Windows in Corridor Between Main and East Addition	ND
	59		East Side of South Wall Central Window		ND
	60		West Side of South Wall Central Window		ND
18	61	White Interior Window Caulking	First Floor Dining Room North Side of West Window	Main House: Associated with Windows Throughout Main House	ND
	62		Second Floor Northwest Corner Bedroom North Side of West Window		ND
	63		Third Floor Northwest Corner Bedroom East Side of North Window		ND
19	64	Black Tar Paper	Southwest Vent of Formal Living Room	Main House: Under Floorboards	ND
	65		Southwest Vent of Formal Living Room		ND
	66		Southwest Vent of Formal Living Room		ND
20	67	Tan Brick and Gray Mortar	Top of Fireplace in Second Floor Northeast Room	Main House: Fireplaces Throughout	Brick: ND, Mortar: ND
	68		Top of Fireplace in Second Floor Southeast Room		Brick: ND, Mortar: ND
	69		Top of Fireplace in First Floor Den		Brick: ND, Mortar: ND
21	70	12"x12" Peach Marble Pattern Ceramic Floor	At Southeast Vent		Ceramic: ND, Mortar: ND, Grout: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	71	Tile with Gray Mortar and Gray Grout	At Southeast Vent	Main House: First Floor Southwest Room	Ceramic: ND, Mortar: ND, Grout: ND
	72		At Southeast Vent		Ceramic: ND, Mortar: ND, Grout: ND
22	73	12"x12" Tan Ceramic Floor Tile with Gray Mortar and Gray Grout	Northeast Corner of First Floor Restroom	Main House: First Floor Restroom, Second Floor Northwest Bedroom Restroom, West Restroom	Ceramic: ND, Mortar: ND, Grout: ND
	74		Northwest Bedroom Restroom Closet		Ceramic: ND, Mortar: ND, Grout: ND
	75		Northwest Bedroom Restroom Closet		Ceramic: ND, Mortar: ND, Grout: ND
23	76	4" Gray Cove Base with Yellow Mastic	At Entry East Side of Door	Main House: Vault Room in Basement	Cove Base: ND, Mastic: ND
	77		Middle East Wall		Cove Base: ND, Mastic: ND
	78		Middle West Wall		Cove Base: ND, Mastic: ND
24	79	White Wall Stabilizer	Northeast Corner of Northeast Room	Main House: Throughout Basement Stone Walls	ND
	80		Northeast Corner of Northwest Room		ND
	81		Northeast Corner of Southwest Room		ND
	82		Southwest Corner of Southwest Room		ND
	83		Northeast Corner of Southeast Room		ND
	84		Northeast Corner of East Room		ND
	85		Southeast Corner of East Room		ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
25	86	12"x12" White with Gray Streaks Ceramic Floor Tile with Gray Mortar and White Grout	Northwest Corner	Main House: Second Floor Bathroom of Northeast Bedroom	Ceramic: ND, Mortar: ND, Grout: ND
	87		Northwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
	88		Northwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
26	89	12"x12" White with Gray Streaks Ceramic Wall Tile with White Mortar and White Grout	Northwest Corner	Main House: Second Floor Bathroom Shower of Northeast	Ceramic: ND, Mortar: ND, Grout: ND
	90		Northwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
	91		Northwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
27	92	White Interior Door Caulking	Doorway to Dining Room	Main House: Associated with Interior Doors Throughout	ND
	93		Doorway to Second Floor Northeast Bedroom		ND
	94		Doorway to Third Floor East Bedroom		ND
28	95	12"x12" Tan Ceramic Wall Tile with Brown Grout and Gray Mortar	Doorway of Northwest Bedroom Shower	Main House: Shower of Second Floor Middle West and Northwest Bedroom	Ceramic: ND, Mortar: ND, Grout: ND
	96		Doorway of Northwest Bedroom Shower		Ceramic: ND, Mortar: ND, Grout: ND
	97		Doorway of Northwest Bedroom Shower		Ceramic: ND, Mortar: ND, Grout: ND
29	98	1"x1" Tan Ceramic Floor Tile with White Grout and White Mortar	Doorway of Northwest Bedroom Shower	Main House: Shower of Second Floor Middle West and Northwest Bedroom	Ceramic: ND, Mortar: ND, Grout: ND
	99		Doorway of Northwest Bedroom Shower		Ceramic: ND, Mortar: ND, Grout: ND
	100		Doorway of Middle West Bedroom Shower		Ceramic: ND, Mortar: ND, Grout: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
30	101	12"x12" Cream Color with Tan Streak Ceramic Floor Tile with White Grout and White Mortar	West of Tub	Main House: Master Bathroom	Ceramic: ND, Mortar: ND, Grout: ND
	102		West of Tub		Ceramic: ND, Mortar: ND, Grout: ND
	103		West of Tub		Ceramic: ND, Mortar: ND, Grout: ND
31	104	12"x12" Cream Color with Tan Streak Ceramic Wall Tile with White Grout and White Mortar	South Side of East Shower	Main House: Master Bathroom Shower Walls	Ceramic: ND, Mortar: ND, Grout: ND
	105		South Side of East Shower		Ceramic: ND, Mortar: ND, Grout: ND
	106		South Side of East Shower		Ceramic: ND, Mortar: ND, Grout: ND
32	107	1"x1" Tan Ceramic Floor Tile with Gray Grout and Gray Mortar	Northeast Corner of Shower	Main House: Master Bathroom Shower	Ceramic: ND, Mortar: ND, Grout: ND
	108		Northeast Corner of Shower		Ceramic: ND, Mortar: ND, Grout: ND
	109		Northeast Corner of Shower		Ceramic: ND, Mortar: ND, Grout: ND
33	110	White 9"x9" Pattern Linoleum Flooring with Yellow Mastic	Northeast Corner	Main House: Third Floor Southeast Storage Room	Linoleum: ND, Mastic: ND
	111		Northeast Corner		Linoleum: ND, Mastic: ND
	112		Northwest Corner		Linoleum: ND, Mastic: ND
34	113	2"x2" White Ceramic Floor Tile with Gray Grout and Gray Mortar	Middle West Side	Main House: Third Floor Bathroom	Ceramic: ND, Mortar: ND, Grout: ND
	114		Middle West Side		Ceramic: ND, Mortar: ND, Grout: ND
	115		Middle West Side		Ceramic: ND, Mortar: ND, Grout: ND
35	116	4"x4" White Ceramic Wall Tile with Gray	Southwest Corner		Ceramic: ND, Mortar: ND, Grout: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	117	Grout and Gray Mortar	Southwest Corner	Main House: Third Floor Bathroom Shower	Ceramic: ND, Mortar: ND, Grout: ND
	118		Southwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
36	119	White Hexagon Shaped Ceramic Floor Tile with Gray Grout and Gray Mortar	Northwest Corner	Main House: Third Floor Bathroom Shower	Ceramic: ND, Mortar: ND, Grout: ND
	120		Northwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
	121		Northwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
37	122	12"x12" White with Blue and Red Spec Floor Tile with Yellow Mastic	Southeast Corner	Main House: Third Floor Mechanical Room	Floor Tile: ND, Mastic: ND
	123		Southwest Corner		Floor Tile: ND, Mastic: ND
	124		Near North Entry Door		Floor Tile: ND, Mastic: ND
38	125	Brown Blown-In Insulation	Southwest Bedroom Attic	Main House: Attic	ND
	126		Southwest Bedroom Attic		ND
	127		South End of Master Bedroom Attic		ND
	128		North End of Master Bedroom Attic		ND
	129		Third Floor HVAC Room North End		ND
	130		Third Floor HVAC Room North End		ND
	131		Third Floor HVAC Room North End		ND
39	132		Top of Basement Stairwell	Main House: Throughout	Drywall: ND, Joint Compound: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	133	Drywall System: Drywall and Joint Compound	Northwest Corner of Third Floor HVAC Room		Drywall: ND, Joint Compound: ND
	134		Northeast Corner of Third Floor Southwest Bedroom		Drywall: ND, Joint Compound: ND
	135		Second Floor Closet on East Side of Stairwell		Drywall: ND, Joint Compound: ND
	136		Second Floor Northeast Corner Bedroom Closet East Side		Drywall: ND, Joint Compound: ND
	137		First Floor Southeast Corner of Closet Next to Bathroom		Drywall: ND, Joint Compound: ND
	138		Second Floor Southwest Corner of Southeast Room		Plaster Skim: ND Plaster Base: ND (Sample put in wrong HA, should part of plaster HA 16)
40	139	White Duct Tape	North Vent of East Corridor	Main House: Associated with Ductwork and Vents Throughout	65% Chrysotile
	140		North Vent of East Corridor		65% Chrysotile
	141		North Vent of East Corridor		65% Chrysotile
41	142	White Blown-In Insulation	Pipe Chase of Third Floor HVAC Room	Main House: Assumed in All Exterior Walls	ND
	143		Pipe Chase of Third Floor HVAC Room		ND
	144		Pipe Chase of Third Floor HVAC Room		ND
	145		Pipe Chase of Third Floor HVAC Room		ND
	146		Pipe Chase of Third Floor HVAC Room		ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	147		Pipe Chase of Third Floor HVAC Room		ND
	148		Pipe Chase of Third Floor HVAC Room		ND
42	149	4"x4" White Square Pattern Vinyl Sheet Flooring with Yellow Mastic	Southeast Corner	Main House: Third Floor Southwest Room	Flooring: ND, Mastic: ND
	150		Southeast Corner		Flooring: ND, Mastic: ND
	151		Northwest Corner		Flooring: ND, Mastic: ND
43	152	Black Tar Paper	Third Floor HVAC Pipe Chase	Main House: Assumed Behind Brick of Exterior Walls	ND
	153		Third Floor HVAC Pipe Chase		ND
	154		Third Floor HVAC Pipe Chase		ND
44	155	Exterior White Window Glazing	Third Floor Southwest Room	Main House: Associated with Exterior Windows on North End	ND
	156		North Window of Den		ND
	157		Second Floor Northeast Bedroom		ND
45	158	Asphalt Shingles with Tar Paper	West Side of Roof	Main House: Main Roof	Shingle: ND, Tar Paper: ND
	159		West Side of Roof		Shingle: ND, Tar Paper: ND
	160		West Side of Roof		Shingle: ND, Tar Paper: ND
46	161	Gray Duct Mastic	Southwest Vent of Formal Living Room	Main House: Southwest Corner	ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	162		Southwest Vent of Formal Living Room	Vent of Formal Living Room	ND
	163		Southwest Vent of Formal Living Room		ND
47	164	Tan Tar Paper	North End of Formal Dining Room	Main House: Under Wood Floorboards	ND
	165		North End of Formal Dining Room		ND
	166		North End of Formal Dining Room		ND
48	167	Gray Tar Paper	Northwest Corner	Main House: Under Wood Floorboards in Dining Room	ND
	168		Northwest Corner		ND
	169		Northwest Corner		ND
49	170	Black Flexible Duct Connector	Basement Mechanical Room	Main House: Throughout	ND
	171		Basement Mechanical Room		ND
	172		Basement Mechanical Room		ND
50	173	12"x12" White Marble Floor Tile with White Grout and Gray Mortar	Northwest Corner Vent in Lobby	East Addition: First Floor North and Central Hallways	Ceramic: ND, Mortar: ND, Grout: ND
	174		Northeast Corner Vent in Lobby		Ceramic: ND, Mortar: ND, Grout: ND
	175		Southwest Corner Vent in Lobby		Ceramic: ND, Mortar: ND, Grout: ND
51	176	Drywall System: Drywall and Joint Compound	Northwest Corner of First Floor Closet Near Restroom	East Addition: Throughout	Drywall: ND, Joint Compound: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	177		Northwest Corner of Basement Closet in Northwest Area Near Shower North of Shower		Drywall: ND, Joint Compound: ND
	178		Southeast Corner of Central Hallway Near South Exit of Basement		Drywall: ND, Joint Compound: ND
	179		Northwest Corner Near Northwest Exit of Basement		Drywall: ND, Joint Compound: ND
	180		Second Floor Southwest Corner of Snack Bar		Drywall: ND, Joint Compound: ND
	181		Southwest Corner of Basement Closet South of Shower		Drywall: ND, Joint Compound: ND
	182		Second Floor Southwest Corner of Ticket Booth Room		Drywall: ND, Joint Compound: ND
52	183	Yellow Brick and Gray Mortar	First Floor Ballroom Fireplace	East Addition: Fireplaces Throughout	Brick: ND, Mortar: ND
	184		First Floor Ballroom Fireplace		Brick: ND, Mortar: ND
	185		First Floor Ballroom Fireplace		Brick: ND, Mortar: ND
53	186	Yellow Carpet Mastic	Hallway North Closet	East Addition: Stairwell and Hallway of Basement	ND
	187		Northwest Corner of Hallway		ND
	188		Southeast Corner of Hallway		ND
54	189	4" White Cove Base with Tan Mastic	Southeast Corner of Entrance to Gym	East Addition: Entrance to Gym in Basement	Cove Base: ND, Mastic: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	190		Southeast Corner of Entrance to Gym		Cove Base: ND, Mastic: ND
	191		Southeast Corner of Entrance to Gym		Cove Base: ND, Mastic: ND
55	192	12"x12" White Ceramic Floor Tile with Gray Grout and Gray Mortar	Southwest Corner	East Addition: Basement Jacuzzi Room and Basement Bathroom	Ceramic: ND, Mortar: ND, Grout: ND
	193		Southwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
	194		Southwest Corner		Ceramic: ND, Mortar: ND, Grout: ND
56	195	12"x12" White Ceramic Wall Tile with Gray Grout, Yellow Mastic, and Gray Mortar	Southeast Corner of Tub	East Addition: Basement Jacuzzi Room and Basement Bathroom	Ceramic: ND, Mortar: ND, Grout: ND, Mastic: ND
	196		Southeast Corner of Tub		Ceramic: ND, Mortar: ND, Grout: ND, Mastic: ND
	197		Southeast Corner of Tub		Ceramic: ND, Mortar: ND, Grout: ND, Mastic: ND
57	198	Red Curtains	North Side Bottom Corner of Main Stage Curtain	East Addition: Theater Room	ND
	199		Curtain South of Main Stage Curtain West Side Bottom Corner		ND
	200		Curtain North of Main Stage Curtain East Side Bottom Corner		ND
58	201	Tan Duct Mastic	Center of Attic	East Addition: Associated with Duct Work Throughout	ND
	202		Center of Attic		ND
	203		Near Southeast Corner of Attic		ND
59	204	Black Tar Roofing	Center of Roof		ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	205		Center of Roof	East Addition: Under Slate Roof Shingles	ND
	206		Center of Roof		ND
60	207	Black Rubber Flooring	Northwest Corner	East Addition: Under Carpet in Theater Room	ND
	208		Northeast Corner		ND
	209		Southeast Corner		ND
61	210	White Exterior Window Glazing	Northwest Window of Ballroom	East Addition: Associated with Exterior Windows	ND
	211		Northwest Window of Ballroom		ND
	212		Northwest Window of Ballroom		ND
62	213	White Exterior Door Caulking	West Side of Door	Main House: Front Door	5% Chrysotile
	214		East Side of Door		5% Chrysotile
	215		East Side of Door		5% Chrysotile
63	216	White Exterior Window Caulking	Northeast Middle Window	Main House: Associated with Windows	5% Chrysotile
	217		Northwest Window		ND
	218		Northwest Middle Window		ND
64	219	White Exterior Window Glazing	North Middle Window	Associated with Windows in Connecting Room Between	2.5% Chrysotile by PC
	220		North Middle Window		3% Chrysotile

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	221		South Side Middle Window	Main House and East Addition	ND
65	222	White Exterior Window Caulking	North Middle Window	Associated with Windows in Connecting Room Between Main House and East Addition	ND
	223		South Side Middle Window		5% Chrysotile
	224		South Side Middle Window		ND
66	225	White/Brown Exterior Door Caulking	East Side of Door	Associated with Front Door of East Addition	White Caulking: ND Brown Caulking: 3% Chrysotile
	226		East Side of Door		White Caulking: ND
	227		East Side of Door		White Caulking: ND Brown Caulking: 5% Chrysotile
67	228	White/Brown Exterior Window Caulking	Northwest Window	Associated with Windows of East Addition	White Caulking: ND Brown Caulking: 3% Chrysotile
	229		Northeast Window		White Caulking: ND
	230		Southwest Ballroom Window		White Caulking: ND
68	231	White Exterior Window Caulking	Northeast Corner Window	Associated with Windows in Main House on South Side	ND
	232		Southeast Corner Window		ND
	233		Southeast Corner Window		ND
69	234	Red Exterior Door Caulking	Northeast Corner Door	Associated with Windows in Main House South Side	ND
	235		Southeast Corner Door		ND
	236		Southwest Corner Door		ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
70	237	Red Exterior Window Caulking	West Side	Main House: Associated with Bay Window of Dining Room	ND
	238		West Side		ND
	239		East Side		ND
71	240	Red/White Exterior Window Glazing	North End	Main House: Associated with Dining Room West Window	ND
	241		North End		ND
	242		South End		ND
72	243	White/Brown/Clear Exterior Window Caulking	North End	Main House: Associated with Dining Room West Window	White/Brown Caulking: 5% Chrysotile, Clear: ND
	244		North End		White/Brown Caulking: 5% Chrysotile, Clear: ND
	245		South End		White/Brown Caulking: 5% Chrysotile, Clear: ND
73	246	Gray Exterior Door Caulking	North End	West Addition: West Entry Door and Kitchen Door	5% Chrysotile
	247		South End		5% Chrysotile
	248		Kitchen Door		5% Chrysotile
74	249	Brown Exterior Window Caulking	Southwest Corner Window	West Addition: Associated with Windows	5% Chrysotile
	250		Northwest Corner Window		5% Chrysotile
	251		Southeast Corner Window		5% Chrysotile
75	252	White Caulking	Near Northwest Master Bedroom Doorway	West Addition: Seam Between Slate Roof and	ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	253		Near Northwest Master Bedroom Doorway	Brick Exterior Wall	ND
	254		Near Northwest Master Bedroom Doorway		ND
76	255	Black EPDM Roof with Foam, Tar Paper, and Tar	Center of Roof	East Corridor Flat Roof	EPDM: ND, Foam: ND, Tar Paper: ND, Tar: ND
	256		Center of Roof		EPDM: ND, Foam: ND, Tar Paper: ND, Tar: ND
	257		Center of Roof		EPDM: ND, Foam: ND, Tar Paper: ND, Tar: ND
77	258	Asphalt and Tar with Wood Fiber Roof	Center of North Roof	Main House: North and Northwest Flat Roofs	Asphalt: ND Woof Fiber: ND
	259		Center of North Roof		Asphalt: ND Woof Fiber: ND
	260		Center of North Roof		Asphalt: ND Woof Fiber: ND
78	261	Slate Shingles with Wood Fiberboard and Tar Paper	Southeast Corner	West House Area Roof	Slate: ND, Fiberboard: ND Tar Paper: ND
	262		Southeast Corner		Slate: ND, Fiberboard: ND Tar Paper: ND
	263		Southeast Corner		Slate: ND, Fiberboard: ND Tar Paper: ND
79	264	Drywall System: Drywall and Joint Compound	Southeast Corner Doorway of Bathroom	Maintenance Garage: Bathroom and Office	Drywall: ND, Joint Compound: ND
	265		Northwest Corner of Office		Drywall: ND, Joint Compound: ND
	266		Southwest Corner of Office		Drywall: ND, Joint Compound: ND
80	267	Fiberglass Reinforced Plastic Board with Tan Mastic	East Side Near Door	Maintenance Garage: Bathroom and Office	Board: ND, Mastic: ND
	268		East Side Near Door		Board: ND, Mastic: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	269		Middle of West Wall		Board: ND, Mastic: ND
81	270	4" Gray Cove Base with Tan Mastic	Northwest Corner of Bathroom	Maintenance Garage: Bathroom and Office	Cove Base: ND, Mastic: ND
	271		Northeast Corner of Bathroom		Cove Base: ND, Mastic: ND
	272		Doorway of Office		Cove Base: ND, Mastic: ND
82	273	White Interior Window Caulking	North Window	Maintenance Garage: Associated with Office Windows	ND
	274		North Window		ND
	275		East Window		ND
83	276	White Interior Door Caulking	Office Door	Maintenance Garage: Associated with Interior Office Door	ND
	277		Office Door		ND
	278		Office Door		ND
84	279	White Interior Door Caulking	West End	Greenhouse: Associated with Interior Door	ND
	280		East End		ND
	281		East End		ND
85	282	White Interior Window Caulking	West Side	Greenhouse: Between Window Frame and CMU Block Wall	ND
	283		West Side		ND
	284		East Side		ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
86	285	Tar Paper Beneath Wood Shingles	Northeast Corner	Treehouse: Roof	ND
	286		Northwest Corner		ND
	287		Northwest Corner		ND
87	288	Shingles with Tar Paper	Southwest Corner	Pool Shed: Roof	Shingle: ND, Tar Paper: ND
	289		Northwest Corner		Shingle: ND, Tar Paper: ND
	290		Northwest Corner		Shingle: ND, Tar Paper: ND
88	291	White Exterior Window Glazing	South Window	Pool Shed: Associated Windows	ND
	292		South Window		ND
	293		South Window		ND
89	294	Fiber re-enforced plastic board with tan mastic	East Wall of Bathroom	Pool Bathhouse: Walls Structure	Board: ND, Mastic: ND
	295		East Wall of Bathroom		Board: ND, Mastic: ND
	296		East Wall of Shower		Board: ND, Mastic: ND
90	297	White sink undercoat	Under Sink	Pool Bathhouse: Kitchenette Sink	ND
	298		Under Sink		ND
	299		Under Sink		ND
91	300	Tar paper	On Peak of Roof	Pool Bathhouse: Roof	ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	301		Northwest Corner		ND
	302		Southwest Corner		ND
92	303	White caulking	West Side of Fountain	Pool: Associated with the seams around fountain and railing	ND
	304		East Side of Fountain		ND
	305		North Side of Fountain		ND
93	306	6"x6" Tan Ceramic Wall Tile with Gray Grout and White Mortar	North Side of Fountain	Pool: Walls of the pool and fountain	Ceramic: ND, Mortar: ND, Grout: ND
	307		North Side of Fountain		Ceramic: ND, Mortar: ND, Grout: ND
	308		North Side of Fountain		Ceramic: ND, Mortar: ND, Grout: ND
94	309	Gray Grout	Southeast Corner of Pool	Pool Bathhouse and Pool Patio: Associated with 12"x12" White Stone Floor Tile	ND
	310		Southeast Corner of Pool		ND
	311		Southeast Corner of Pool		ND
95	312	Gray Mortar	Southeast Corner of Pool	Pool Bathhouse and Pool Patio: Associated with 12"x12" White Stone Floor Tile	ND
	313		Southeast Corner of Pool		ND
	314		Southeast Corner of Pool		ND
96	315	Plaster Walls: Gray Base Coat and Beige/Off White Skim Coat	Doorway of North Bathroom	Garage/Guest House: Throughout 2 nd floor	Base Coat: ND, Finished Coat: ND
	316		Northwest Corner of Kitchen		Base Coat: ND, Finished Coat: ND

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	317		Closet of Middle West Bedroom		Base Coat: ND, Finished Coat: ND
	318		Closet to Southwest Bedroom		Base Coat: ND, Finished Coat: ND
	319		At Window of Middle South Bedroom		Base Coat: ND, Finished Coat: ND
	320		Southeast Hallway Closet		Base Coat: ND, Finished Coat: ND
	321		South Window of Southeast Bedroom		Base Coat: ND, Finished Coat: ND
97	322	2"x2" White Ceiling Tile with Small Fissures	Near Southwest Corner	Garage/Guest House: 1 st Floor	ND
	323		Center of Room		ND
	324		Northwest Corner		ND
98	325	Faux wood flooring with black paper (no mastic)	Northeast corner of 1 st floor	Garage/Guest House: 1 st and 2 nd floors	Flooring: ND, Paper: ND
	326		Southwest corner of 1 st floor		Flooring: ND, Paper: ND
	327		North wall of north bathroom on 2 nd floor		Flooring: ND, Paper: ND
99	328	Off-white 6"x6" patterned linoleum flooring with paper backing and yellow mastic	At vent	Garage/Guest House: 1 st Floor bathroom	Linoleum: ND Mastic: ND
	329		At vent		Linoleum: ND Mastic: ND
	330		Northwest Corner		Linoleum: ND Mastic: ND
100	331		Southwest corner		Linoleum: ND Mastic: ND

Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
 August 16, 2023 | Terracon Report No. N1237347



Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	332	Tan with blue dot linoleum flooring with black mastic	Southeast corner	Garage/Guest House: 2 nd Floor Kitchen	Linoleum: ND Mastic: ND
	333		Northwest corner		Linoleum: ND Mastic: ND
101	334	Gay sink undercoating	2 nd floor kitchen sink	Garage/Guest House: 1 st and 2 nd floor kitchen sinks	ND
	335		2 nd floor kitchen sink		ND
	336		1 st floor kitchen sink		ND
102	337	4"x4" White ceramic wall tile with white grout and gray mortar	West side of shower	Garage/Guest House: 2 nd Floor Shower	Ceramic: ND, Mortar: ND, Grout: ND
	338		West side of shower		Ceramic: ND, Mortar: ND, Grout: ND
	339		West side of shower		Ceramic: ND, Mortar: ND, Grout: ND
103	340	2"x2" White Ceramic Floor Tile with White Grout, Yellow/Tan Mastic and Gray/White Mortar	Northwest Corner of Shower	Garage/Guest House: 2 nd Floor Shower Flooring	Ceramic: ND, Mortar: ND, Grout: ND, Mastic: ND
	341		Northwest Corner of Shower		Ceramic: ND, Mortar: ND, Grout: ND, Mastic: ND
	342		Northwest Corner of Shower		Ceramic: ND, Mortar: ND, Grout: ND, Mastic: ND
104	343	Red/Black Brick and Gray/Black Mortar	South Side of Fireplace	Garage/Guest House: Associated with Fireplace	Brick: ND, Mortar: ND
	344		South Side of Fireplace		Brick: ND, Mortar: ND
	345		South Side of Fireplace		Brick: ND, Mortar: ND
105	346	Vermiculite Fill Insulation	At Attic Hatch	Garage/Guest House: Attic	<0.25% Tremolite by PC
	347		At Attic Hatch		<0.25% Tremolite by PC

Asbestos Inspection ReportResidential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	348		At Attic Hatch		<0.25% Tremolite by PC
106	349	Tar Paper Under Slate Roofing Shingles	Attic Roof at Hatch	Garage/Guest House: Roof	ND
	350		Attic Roof at Hatch		ND
	351		Attic Roof at Hatch		ND
107	352	Plaster Ceiling: Off-WhiteBase Coat Only	Southeast Corner of Garage	Garage/Guest House: Garage ceiling	ND
	353		Northwest Corner of Garage		ND
	354		Lobby outside of East Building Entrance		ND
108	355	Drywall system: drywall and joint compound	Southeast corner of 1 st floor	Garage/Guest House: Throughout 1 st Floor	Drywall: ND, Joint Compound: ND
	356		Southwest corner of 1 st floor		Drywall: ND, Joint Compound: ND
	357		2 nd floor Doorway of middle south room closet		Drywall: ND, Joint Compound: 0.50% Chrysotile by PC, Composite: 0.05% by PC
109	358	White Blown-In Insulation	At Attic Hatch	Garage/Guest House: Attic	ND
	359		At Attic Hatch		ND
	360		At Attic Hatch		ND
	361		At Attic Hatch		ND
	362		At Attic Hatch		ND

Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
 August 16, 2023 | Terracon Report No. N1237347



Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	363		At Attic Hatch		ND
	364		At Attic Hatch		ND
110	365	Gray exterior window caulking	Southwest window	Maintenance Garage: Associated with exterior windows of maintenance garage door windows	ND
	366		Northwest window		ND
	367		Northeast window		ND
111	368	Gray exterior window glazing	Middle south garage door	Maintenance Garage: Associated with the exterior windows of the maintenance garage building	ND
	369		Southwest garage door		ND
	370		Northwest garage door		ND
112	371	Clear Caulking	At Electrical Outlet	Maintenance Garage: Associated with electrical outlet at southwest corner of maintenance garage building	ND
	372		At Electrical Outlet		ND
	373		At Electrical Outlet		ND
113	374	Red Exterior Door Caulking	Northwest exit door	Garage/Guest House: Associated with Exterior Doors and Garage doors	ND
	375		West door to garage		ND
	376		East door to garage		ND
114	377	Red/White Exterior Window Caulking	Northwest window	Garage/Guest House: Associated with exterior windows	White Caulking: 2% Chrysotile, Red Caulking: ND
	378		Northeast window		Red Caulking: ND

Asbestos Inspection ReportResidential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	379		Southeast window		Red Caulking: ND
115	380	White Exterior Window Lentil Caulking	Northwest window	Garage/Guest House: Associated with exterior windows	ND
	381		Northeast window		ND
	382		Southeast window		ND
116	383	White Exterior Window Glazing	1 st floor northwest window	Garage/Guest House: Associated with exterior windows	ND
	384		1 st floor northwest window		ND
	385		1 st floor northeast window		ND
117	-	Glue Dots Behind Mirrors	-	Main House Basement Workout Room	Assumed ACM >1%, Not Sampled Due Safety and Irreparable Damage

Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347



APPENDIX C

ASBESTOS ANALYTICAL LABORATORY DATA

August 14, 2023

Terracon Consultants, Inc.
611 Lunken Park Drive
Cincinnati, OH 45226

CLIENT PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347
CEI LAB CODE: B2316896

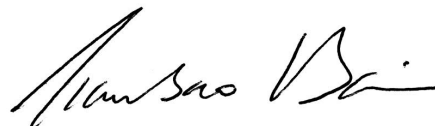
Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 7, 2023. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director



CEI

ASBESTOS ANALYTICAL REPORT

By: Polarized Light Microscopy

Prepared for

Terracon Consultants, Inc.

CLIENT PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/14/23

TOTAL SAMPLES ANALYZED: 366

SAMPLES >1% ASBESTOS: 24



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
01-01		B2316896.001	White	Texture	None Detected
01-02		B2316896.002	White	Texture	None Detected
01-03		B2316896.003	White	Texture	None Detected
01-04		B2316896.004	White	Texture	None Detected
01-05		B2316896.005	White	Texture	None Detected
01-06		B2316896.006	White	Texture	None Detected
01-07		B2316896.007	White	Texture	None Detected
02-08	Layer 1	B2316896.008	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.008	White	Plaster Base Coat	None Detected
02-09	Layer 1	B2316896.009	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.009	White	Plaster Base Coat	None Detected
02-10	Layer 1	B2316896.010	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.010	White	Plaster Base Coat	None Detected
03-11		B2316896.011	Gray	Sink Undercoating	None Detected
03-12		B2316896.012	Gray	Sink Undercoating	None Detected
03-13		B2316896.013	Gray	Sink Undercoating	None Detected
04-14		B2316896.014	Gray,White	Texture	None Detected
04-15		B2316896.015	Gray,White	Texture	None Detected
04-16		B2316896.016	Gray,White	Texture	None Detected
05-17	Layer 1	B2316896.017A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.017A	Gray	Grout	None Detected
		B2316896.017B	Gray	Mastic	None Detected
05-18	Layer 1	B2316896.018A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.018A	Gray	Grout	None Detected
		B2316896.018B	Gray	Mastic	None Detected
05-19	Layer 1	B2316896.019A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.019A	Gray	Grout	None Detected
		B2316896.019B	Gray	Mastic	None Detected
06-20		B2316896.020	White	Door Caulking	None Detected
06-21		B2316896.021	White	Door Caulking	None Detected
06-22		B2316896.022	White	Door Caulking	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
07-23		B2316896.023	White	Window Caulking	None Detected
07-24		B2316896.024	White	Window Caulking	None Detected
07-25		B2316896.025	White,Beige	Window Caulking	None Detected
08-26		B2316896.026	Gray	Plaster Base Coat	None Detected
08-27		B2316896.027A	White	Plaster Skim Coat	None Detected
		B2316896.027B	Gray	Drywall	None Detected
08-28	Layer 1	B2316896.028	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.028	Gray	Plaster Base Coat	None Detected
09-29	Layer 1	B2316896.029	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.029	White	Plaster Base Coat	None Detected
09-30	Layer 1	B2316896.030	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.030	White	Plaster Base Coat	None Detected
09-31		B2316896.031	White	Plaster Base Coat	None Detected
32		B2316896.032		Sample Not Submitted	
10-33	Layer 1	B2316896.033	White	Joint Compound	None Detected
	Layer 2	B2316896.033	White	Drywall	None Detected
10-34	Layer 1	B2316896.034	White	Joint Compound	None Detected
	Layer 2	B2316896.034	White	Drywall	None Detected
10-35	Layer 1	B2316896.035	White	Joint Compound	None Detected
	Layer 2	B2316896.035	White	Drywall	None Detected
11-36		B2316896.036	Tan	Tarpaper	None Detected
11-37		B2316896.037	Tan	Tarpaper	None Detected
11-38		B2316896.038	Tan	Tarpaper	None Detected
12-39	Layer 1	B2316896.039A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.039A	Gray	Grout	None Detected
	Layer 3	B2316896.039A	Gray	Mortar	None Detected
	Layer 4	B2316896.039A	Dark Gray	Mortar	None Detected
		B2316896.039B	Yellow	Mastic	None Detected
12-40	Layer 1	B2316896.040A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.040A	Gray	Grout	None Detected
	Layer 3	B2316896.040A	Gray	Mortar	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 4	B2316896.040A	Dark Gray	Mortar	None Detected
		B2316896.040B	Yellow	Mastic	None Detected
12-41	Layer 1	B2316896.041A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.041A	Gray	Grout	None Detected
	Layer 3	B2316896.041A	Gray	Mortar	None Detected
	Layer 4	B2316896.041A	Dark Gray	Mortar	None Detected
		B2316896.041B	Yellow	Mastic	None Detected
13-42		B2316896.042	White	Window Glazing	None Detected
13-43		B2316896.043	White	Window Glazing	None Detected
13-44		B2316896.044	White	Window Glazing	None Detected
14-45		B2316896.045	Black,White	Flooring	None Detected
14-46		B2316896.046	Black,White	Flooring	None Detected
14-47		B2316896.047	Black,White	Flooring	None Detected
15-48		B2316896.048	White	Texture	None Detected
15-49		B2316896.049	White	Texture	None Detected
15-50		B2316896.050	White	Texture	None Detected
16-51	Layer 1	B2316896.051	White	Surface Material	None Detected
	Layer 2	B2316896.051	White	Plaster Skim Coat	None Detected
	Layer 3	B2316896.051	Gray	Plaster Base Coat	None Detected
16-52	Layer 1	B2316896.052	White	Surface Material	None Detected
	Layer 2	B2316896.052	White	Plaster Skim Coat	None Detected
	Layer 3	B2316896.052	Gray	Plaster Base Coat	None Detected
16-53	Layer 1	B2316896.053	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.053	Brown	Plaster Base Coat	None Detected
16-54	Layer 1	B2316896.054	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.054	Brown	Plaster Base Coat	None Detected
16-55	Layer 1	B2316896.055	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.055	Brown	Plaster Base Coat	None Detected
16-56	Layer 1	B2316896.056	White	Plaster Skim Coat	None Detected
	Layer 2	B2316896.056	Brown	Plaster Base Coat	None Detected
16-57	Layer 1	B2316896.057A	White	Plaster Skim Coat	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B2316896.057A	Gray	Plaster Base Coat	Chrysotile <1%
		B2316896.057B		Plaster Base Coat (400 Point Count)	Chrysotile 0.50%
17-58		B2316896.058	White	Window Caulking	None Detected
17-59		B2316896.059	White	Window Caulking	None Detected
17-60		B2316896.060	White	Window Caulking	None Detected
18-61		B2316896.061	White	Window Caulking	None Detected
18-62		B2316896.062	White	Window Caulking	None Detected
18-63		B2316896.063	White	Window Caulking	None Detected
64		B2316896.064		Sample Not Submitted	
65		B2316896.065		Sample Not Submitted	
66		B2316896.066		Sample Not Submitted	
20-67	Layer 1	B2316896.067	Tan	Brick	None Detected
	Layer 2	B2316896.067	Gray	Mortar	None Detected
20-68	Layer 1	B2316896.068	Tan	Brick	None Detected
	Layer 2	B2316896.068	Gray	Mortar	None Detected
20-69	Layer 1	B2316896.069	Tan	Brick	None Detected
	Layer 2	B2316896.069	Gray	Mortar	None Detected
21-70	Layer 1	B2316896.070	Peach	Ceramic Tile	None Detected
	Layer 2	B2316896.070	Gray	Grout	None Detected
	Layer 3	B2316896.070	Gray	Mortar	None Detected
21-71	Layer 1	B2316896.071	Peach	Ceramic Tile	None Detected
	Layer 2	B2316896.071	Gray	Grout	None Detected
	Layer 3	B2316896.071	Gray	Mortar	None Detected
21-72	Layer 1	B2316896.072	Peach	Ceramic Tile	None Detected
	Layer 2	B2316896.072	Gray	Grout	None Detected
	Layer 3	B2316896.072	Gray	Mortar	None Detected
22-73	Layer 1	B2316896.073	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.073	Gray	Grout	None Detected
	Layer 3	B2316896.073	Gray	Mortar	None Detected
22-74	Layer 1	B2316896.074	Tan	Ceramic Tile	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B2316896.074	Gray	Grout	None Detected
	Layer 3	B2316896.074	Gray	Mortar	None Detected
22-75	Layer 1	B2316896.075	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.075	Gray	Grout	None Detected
	Layer 3	B2316896.075	Gray	Mortar	None Detected
23-76		B2316896.076A	Gray	Covebase	None Detected
		B2316896.076B	Yellow	Mastic	None Detected
23-77		B2316896.077A	Gray	Covebase	None Detected
		B2316896.077B	Yellow	Mastic	None Detected
23-78		B2316896.078A	Gray	Covebase	None Detected
		B2316896.078B	Yellow	Mastic	None Detected
24-79		B2316896.079	White,Gray	Wall Stabilizer	None Detected
24-80		B2316896.080	White,Gray	Wall Stabilizer	None Detected
24-81		B2316896.081	White,Gray	Wall Stabilizer	None Detected
24-82		B2316896.082	White,Gray	Wall Stabilizer	None Detected
24-83		B2316896.083	White,Gray	Wall Stabilizer	None Detected
24-84		B2316896.084	White,Gray	Wall Stabilizer	None Detected
24-85		B2316896.085	White,Gray	Wall Stabilizer	None Detected
25-86	Layer 1	B2316896.086	White	Ceramic Tile	None Detected
	Layer 2	B2316896.086	Gray	Grout	None Detected
	Layer 3	B2316896.086	Gray	Mortar	None Detected
25-87	Layer 1	B2316896.087	White	Ceramic Tile	None Detected
	Layer 2	B2316896.087	Gray	Grout	None Detected
	Layer 3	B2316896.087	Gray	Mortar	None Detected
25-88	Layer 1	B2316896.088	White	Ceramic Tile	None Detected
	Layer 2	B2316896.088	Gray	Grout	None Detected
	Layer 3	B2316896.088	Gray	Mortar	None Detected
26-89	Layer 1	B2316896.089	White	Ceramic Tile	None Detected
	Layer 2	B2316896.089	White	Grout	None Detected
	Layer 3	B2316896.089	White	Mortar	None Detected
26-90	Layer 1	B2316896.090	White	Ceramic Tile	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B2316896.090	White	Grout	None Detected
	Layer 3	B2316896.090	White	Mortar	None Detected
26-91	Layer 1	B2316896.091	White	Ceramic Tile	None Detected
	Layer 2	B2316896.091	White	Grout	None Detected
	Layer 3	B2316896.091	White	Mortar	None Detected
27-92		B2316896.092	White	Door Caulk	None Detected
27-93		B2316896.093	White	Door Caulk	None Detected
27-94		B2316896.094	White	Door Caulk	None Detected
28-95	Layer 1	B2316896.095	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.095	Brown	Grout	None Detected
	Layer 3	B2316896.095	Gray	Mortar	None Detected
28-96	Layer 1	B2316896.096	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.096	Brown	Grout	None Detected
	Layer 3	B2316896.096	Gray	Mortar	None Detected
28-97	Layer 1	B2316896.097	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.097	Brown	Grout	None Detected
	Layer 3	B2316896.097	Gray	Mortar	None Detected
29-98	Layer 1	B2316896.098	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.098	White	Grout	None Detected
	Layer 3	B2316896.098	White	Mortar	None Detected
29-99	Layer 1	B2316896.099	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.099	White	Grout	None Detected
	Layer 3	B2316896.099	White	Mortar	None Detected
29-100	Layer 1	B2316896.100	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.100	White	Grout	None Detected
	Layer 3	B2316896.100	White	Mortar	None Detected
30-101	Layer 1	B2316896.101	Cream,Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.101	White	Grout	None Detected
	Layer 3	B2316896.101	White	Mortar	None Detected
30-102	Layer 1	B2316896.102	Cream,Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.102	White	Grout	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 3	B2316896.102	White	Mortar	None Detected
30-103	Layer 1	B2316896.103	Cream,Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.103	White	Grout	None Detected
	Layer 3	B2316896.103	White	Mortar	None Detected
31-104	Layer 1	B2316896.104	Cream,Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.104	White	Grout	None Detected
	Layer 3	B2316896.104	White	Mortar	None Detected
31-105	Layer 1	B2316896.105	Cream,Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.105	White	Grout	None Detected
	Layer 3	B2316896.105	White	Mortar	None Detected
31-106	Layer 1	B2316896.106	Cream,Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.106	White	Grout	None Detected
	Layer 3	B2316896.106	White	Mortar	None Detected
32-107	Layer 1	B2316896.107	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.107	Gray	Grout	None Detected
	Layer 3	B2316896.107	Gray	Mortar	None Detected
32-108	Layer 1	B2316896.108	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.108	Gray	Grout	None Detected
	Layer 3	B2316896.108	Gray	Mortar	None Detected
32-109	Layer 1	B2316896.109	Tan	Ceramic Tile	None Detected
	Layer 2	B2316896.109	Gray	Grout	None Detected
	Layer 3	B2316896.109	Gray	Mortar	None Detected
33-110		B2316896.110A	White	Linoleum	None Detected
		B2316896.110B	Yellow	Mastic	None Detected
33-111		B2316896.111A	White	Linoleum	None Detected
		B2316896.111B	Yellow	Mastic	None Detected
33-112		B2316896.112A	White	Linoleum	None Detected
		B2316896.112B	Yellow	Mastic	None Detected
34-113	Layer 1	B2316896.113	White	Ceramic Tile	None Detected
	Layer 2	B2316896.113	Gray	Grout	None Detected
	Layer 3	B2316896.113	Gray	Mortar	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
34-114	Layer 1	B2316896.114	White	Ceramic Tile	None Detected
	Layer 2	B2316896.114	Gray	Grout	None Detected
	Layer 3	B2316896.114	Gray	Mortar	None Detected
34-115	Layer 1	B2316896.115	White	Ceramic Tile	None Detected
	Layer 2	B2316896.115	Gray	Grout	None Detected
	Layer 3	B2316896.115	Gray	Mortar	None Detected
35-116	Layer 1	B2316896.116	White	Ceramic Tile	None Detected
	Layer 2	B2316896.116	Gray	Grout	None Detected
	Layer 3	B2316896.116	Gray	Mortar	None Detected
35-117	Layer 1	B2316896.117	White	Ceramic Tile	None Detected
	Layer 2	B2316896.117	Gray	Grout	None Detected
	Layer 3	B2316896.117	Gray	Mortar	None Detected
35-118	Layer 1	B2316896.118	White	Ceramic Tile	None Detected
	Layer 2	B2316896.118	Gray	Grout	None Detected
	Layer 3	B2316896.118	Gray	Mortar	None Detected
36-119	Layer 1	B2316896.119	White	Ceramic Tile	None Detected
	Layer 2	B2316896.119	Gray	Grout	None Detected
	Layer 3	B2316896.119	Gray	Mortar	None Detected
36-120	Layer 1	B2316896.120	White	Ceramic Tile	None Detected
	Layer 2	B2316896.120	Gray	Grout	None Detected
	Layer 3	B2316896.120	Gray	Mortar	None Detected
36-121	Layer 1	B2316896.121	White	Ceramic Tile	None Detected
	Layer 2	B2316896.121	Gray	Grout	None Detected
	Layer 3	B2316896.121	Gray	Mortar	None Detected
37-122		B2316896.122A	White,Blue	Floor Tile	None Detected
		B2316896.122B	Yellow	Mastic	None Detected
37-123		B2316896.123A	White,Blue	Floor Tile	None Detected
		B2316896.123B	Yellow	Mastic	None Detected
37-124		B2316896.124A	White,Blue	Floor Tile	None Detected
		B2316896.124B	Yellow	Mastic	None Detected
38-125		B2316896.125	Brown	Blown-in Insulation	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
38-126		B2316896.126	Brown	Blown-in Insulation	None Detected
38-127		B2316896.127	Brown	Blown-in Insulation	None Detected
38-128		B2316896.128	Brown	Blown-in Insulation	None Detected
38-129		B2316896.129	Brown	Blown-in Insulation	None Detected
38-130		B2316896.130	Brown	Blown-in Insulation	None Detected
38-131		B2316896.131	Brown	Blown-in Insulation	None Detected
39-132	Layer 1	B2316896.132	White	Joint Compound	None Detected
	Layer 2	B2316896.132	White	Drywall	None Detected
39-133	Layer 1	B2316896.133	White	Joint Compound	None Detected
	Layer 2	B2316896.133	White	Drywall	None Detected
39-134	Layer 1	B2316896.134	White	Joint Compound	None Detected
	Layer 2	B2316896.134	White	Drywall	None Detected
39-135	Layer 1	B2316896.135	White	Joint Compound	None Detected
	Layer 2	B2316896.135	White	Drywall	None Detected
39-136	Layer 1	B2316896.136	White	Joint Compound	None Detected
	Layer 2	B2316896.136	White	Drywall	None Detected
39-137	Layer 1	B2316896.137	White	Joint Compound	None Detected
	Layer 2	B2316896.137	White	Drywall	None Detected
39-138	Layer 1	B2316896.138	White	Surface Material	None Detected
	Layer 2	B2316896.138	White	Plaster Skim Coat	None Detected
	Layer 3	B2316896.138	Gray	Plaster Base Coat	None Detected
40-139		B2316896.139	White	Duct Tape	Chrysotile 65%
40-140		B2316896.140	White	Duct Tape	Chrysotile 65%
40-141		B2316896.141	White	Duct Tape	Chrysotile 65%
41-142		B2316896.142	White	Blown-in Insulation	None Detected
41-143		B2316896.143	White	Blown-in Insulation	None Detected
41-144		B2316896.144	White	Blown-in Insulation	None Detected
41-145		B2316896.145	White	Blown-in Insulation	None Detected
41-146		B2316896.146	White	Blown-in Insulation	None Detected
41-147		B2316896.147	White	Blown-in Insulation	None Detected
41-148		B2316896.148	White	Blown-in Insulation	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
42-149		B2316896.149A	White	Sheet Flooring	None Detected
		B2316896.149B	Yellow	Mastic	None Detected
42-150		B2316896.150A	White	Sheet Flooring	None Detected
		B2316896.150B	Yellow	Mastic	None Detected
42-151		B2316896.151A	White	Sheet Flooring	None Detected
		B2316896.151B	Yellow	Mastic	None Detected
43-152		B2316896.152	Black	Tarpaper	None Detected
43-153		B2316896.153	Black	Tarpaper	None Detected
43-154		B2316896.154	Black	Tarpaper	None Detected
44-155		B2316896.155	White	Window Glazing	None Detected
44-156		B2316896.156	White	Window Glazing	None Detected
44-157		B2316896.157	White,Tan	Window Glazing	None Detected
45-158	Layer 1	B2316896.158	Black	Asphalt Shingle	None Detected
	Layer 2	B2316896.158	Black	Tarpaper	None Detected
45-159	Layer 1	B2316896.159	Black	Asphalt Shingle	None Detected
	Layer 2	B2316896.159	Black	Tarpaper	None Detected
45-160	Layer 1	B2316896.160	Black	Asphalt Shingle	None Detected
	Layer 2	B2316896.160	Black	Tarpaper	None Detected
46-161		B2316896.161	Gray	Duct Mastic	None Detected
46-162		B2316896.162	Gray	Duct Mastic	None Detected
46-163		B2316896.163	Gray	Duct Mastic	None Detected
47-164		B2316896.164	Tan	Tarpaper	None Detected
47-165		B2316896.165	Tan	Tarpaper	None Detected
47-166		B2316896.166	Tan	Tarpaper	None Detected
48-167		B2316896.167	Gray	Tarpaper	None Detected
48-168		B2316896.168	Gray	Tarpaper	None Detected
48-169		B2316896.169	Gray	Tarpaper	None Detected
49-170		B2316896.170	Black	Flexible Duct Connector	None Detected
49-171		B2316896.171	Black	Flexible Duct Connector	None Detected
49-172		B2316896.172	Black	Flexible Duct Connector	None Detected
50-173	Layer 1	B2316896.173	White	Ceramic Tile	None Detected



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Asbestos Report Summary

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PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B2316896.173	White	Grout	None Detected
	Layer 3	B2316896.173	Gray	Mortar	None Detected
50-174	Layer 1	B2316896.174	White	Ceramic Tile	None Detected
	Layer 2	B2316896.174	White	Grout	None Detected
	Layer 3	B2316896.174	Gray	Mortar	None Detected
50-175	Layer 1	B2316896.175	White	Ceramic Tile	None Detected
	Layer 2	B2316896.175	White	Grout	None Detected
	Layer 3	B2316896.175	Gray	Mortar	None Detected
51-176	Layer 1	B2316896.176	White	Joint Compound	None Detected
	Layer 2	B2316896.176	White	Drywall	None Detected
51-177	Layer 1	B2316896.177	White	Joint Compound	None Detected
	Layer 2	B2316896.177	White	Drywall	None Detected
51-178	Layer 1	B2316896.178	White	Joint Compound	None Detected
	Layer 2	B2316896.178	White	Drywall	None Detected
51-179	Layer 1	B2316896.179	White	Joint Compound	None Detected
	Layer 2	B2316896.179	White	Drywall	None Detected
51-180	Layer 1	B2316896.180	White	Joint Compound	None Detected
	Layer 2	B2316896.180	White	Drywall	None Detected
51-181	Layer 1	B2316896.181	White	Joint Compound	None Detected
	Layer 2	B2316896.181	White	Drywall	None Detected
51-182	Layer 1	B2316896.182	White	Joint Compound	None Detected
	Layer 2	B2316896.182	White	Drywall	None Detected
52-183	Layer 1	B2316896.183	Yellow	Brick	None Detected
	Layer 2	B2316896.183	Gray	Grout	None Detected
52-184	Layer 1	B2316896.184	Yellow	Brick	None Detected
	Layer 2	B2316896.184	Gray	Grout	None Detected
52-185	Layer 1	B2316896.185	Yellow	Brick	None Detected
	Layer 2	B2316896.185	Gray	Grout	None Detected
53-186		B2316896.186	Yellow	Carpet Mastic	None Detected
53-187		B2316896.187	Yellow	Carpet Mastic	None Detected
53-188		B2316896.188	Yellow	Carpet Mastic	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
54-189		B2316896.189A	White	Covebase	None Detected
		B2316896.189B	Tan	Mastic	None Detected
54-190		B2316896.190A	White	Covebase	None Detected
		B2316896.190B	Tan	Mastic	None Detected
54-191		B2316896.191A	White	Covebase	None Detected
		B2316896.191B	Tan	Mastic	None Detected
55-192	Layer 1	B2316896.192	White	Ceramic Tile	None Detected
	Layer 2	B2316896.192	Gray	Grout	None Detected
	Layer 3	B2316896.192	Gray	Mortar	None Detected
55-193	Layer 1	B2316896.193	White	Ceramic Tile	None Detected
	Layer 2	B2316896.193	Gray	Grout	None Detected
	Layer 3	B2316896.193	Gray	Mortar	None Detected
55-194	Layer 1	B2316896.194	White	Ceramic Tile	None Detected
	Layer 2	B2316896.194	Gray	Grout	None Detected
	Layer 3	B2316896.194	Gray	Mortar	None Detected
56-195	Layer 1	B2316896.195A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.195A	Gray	Grout	None Detected
	Layer 3	B2316896.195A	Gray	Mortar	None Detected
		B2316896.195B	Yellow	Mastic	None Detected
56-196	Layer 1	B2316896.196A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.196A	Gray	Grout	None Detected
	Layer 3	B2316896.196A	Gray	Mortar	None Detected
		B2316896.196B	Yellow	Mastic	None Detected
56-197	Layer 1	B2316896.197A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.197A	Gray	Grout	None Detected
	Layer 3	B2316896.197A	Gray	Mortar	None Detected
		B2316896.197B	Yellow	Mastic	None Detected
57-198		B2316896.198	Red	Curtain	None Detected
57-199		B2316896.199	Red	Curtain	None Detected
57-200		B2316896.200	Red	Curtain	None Detected
58-201		B2316896.201	Tan	Duct Mastic	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
58-202		B2316896.202	Tan	Duct Mastic	None Detected
58-203		B2316896.203	Tan	Duct Mastic	None Detected
59-204	Layer 1	B2316896.204	Gray	Tar Roofing - Slate	None Detected
	Layer 2	B2316896.204	Black	Tar Roofing - Tar Paper	None Detected
59-205	Layer 1	B2316896.205	Gray	Tar Roofing - Slate	None Detected
	Layer 2	B2316896.205	Black	Tar Roofing - Tar Paper	None Detected
59-206	Layer 1	B2316896.206	Gray	Tar Roofing - Slate	None Detected
	Layer 2	B2316896.206	Black	Tar Roofing - Tar Paper	None Detected
60-207		B2316896.207	Black	Rubber Flooring	None Detected
60-208		B2316896.208	Black	Rubber Flooring	None Detected
60-209		B2316896.209	Black	Rubber Flooring	None Detected
61-210		B2316896.210	White	Exterior Window Glazing	None Detected
61-211		B2316896.211	White	Exterior Window Glazing	None Detected
61-212		B2316896.212	White	Exterior Window Glazing	None Detected
62-213		B2316896.213	White	Exterior Door Caulking	Chrysotile 5%
62-214		B2316896.214	White	Exterior Door Caulking	Chrysotile 5%
62-215		B2316896.215	White	Exterior Door Caulking	Chrysotile 5%
63-216		B2316896.216	White	Exterior Window Caulking	Chrysotile 5%
63-217		B2316896.217	White	Exterior Window Caulking	None Detected
63-218		B2316896.218	White	Exterior Window Caulking	None Detected
64-219		B2316896.219A	White	Exterior Window Glazing	Chrysotile 3%
		B2316896.219B		Exterior Window Glazing (400 Point Count)	Chrysotile 2.5%
64-220		B2316896.220A	White	Exterior Window Glazing	Chrysotile 3%
		B2316896.220B		Sample Not Analyzed per COC	
64-221		B2316896.221	White	Exterior Window Glazing	None Detected
65-222		B2316896.222	White	Exterior Window Caulking	None Detected
65-223		B2316896.223	White	Exterior Window Caulking	Chrysotile 5%
65-224		B2316896.224	White	Exterior Window Caulking	None Detected
66-225	Layer 1	B2316896.225	White	Exterior Door Caulking	None Detected
	Layer 2	B2316896.225	Brown	Exterior Door Caulking	Chrysotile 3%



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
66-226		B2316896.226	White	Exterior Door Caulking	None Detected
66-227		B2316896.227	White	Exterior Door Caulking	Chrysotile 5%
67-228	Layer 1	B2316896.228	White	Exterior Window Caulking	None Detected
	Layer 2	B2316896.228	Brown	Exterior Window Caulking	Chrysotile 3%
67-229		B2316896.229	White	Exterior Window Caulking	None Detected
67-230		B2316896.230	White	Exterior Window Caulking	None Detected
68-231		B2316896.231	White	Exterior Window Caulking	None Detected
68-232		B2316896.232	White	Exterior Window Caulking	None Detected
68-233		B2316896.233	White	Exterior Window Caulking	None Detected
69-234		B2316896.234	Red	Exterior Door Caulking	None Detected
69-235		B2316896.235	Red	Exterior Door Caulking	None Detected
69-236		B2316896.236	Red	Exterior Door Caulking	None Detected
70-237		B2316896.237	Red	Exterior Window Caulking	None Detected
70-238		B2316896.238	Red	Exterior Window Caulking	None Detected
70-239		B2316896.239	Red	Exterior Window Caulking	None Detected
71-240		B2316896.240	Red,White	Exterior Window Glazing	None Detected
71-241		B2316896.241	Red,White	Exterior Window Glazing	None Detected
71-242		B2316896.242	Red,White	Exterior Window Glazing	None Detected
72-243	Layer 1	B2316896.243	White,Brown	Exterior Window Caulking	Chrysotile 5%
	Layer 2	B2316896.243	Clear	Exterior Window Caulking	None Detected
72-244	Layer 1	B2316896.244	White,Brown	Exterior Window Caulking	Chrysotile 5%
	Layer 2	B2316896.244	Clear	Exterior Window Caulking	None Detected
72-245	Layer 1	B2316896.245	White,Brown	Exterior Window Caulking	Chrysotile 5%
	Layer 2	B2316896.245	Clear	Exterior Window Caulking	None Detected
73-246		B2316896.246	Gray	Exterior Door Caulking	Chrysotile 5%
73-247		B2316896.247	Gray	Exterior Door Caulking	Chrysotile 5%
73-248		B2316896.248	Gray	Exterior Door Caulking	Chrysotile 5%
74-249		B2316896.249	Brown	Exterior Window Caulking	Chrysotile 5%
74-250		B2316896.250	Brown	Exterior Window Caulking	Chrysotile 5%
74-251		B2316896.251	Brown	Exterior Window Caulking	Chrysotile 5%
75-252		B2316896.252	White	Caulking	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
75-253		B2316896.253	White	Caulking	None Detected
75-254		B2316896.254	White	Caulking	None Detected
76-255	Layer 1	B2316896.255	Black	Epdm Roof	None Detected
	Layer 2	B2316896.255	Yellow	Foam	None Detected
	Layer 3	B2316896.255	Brown	Tar Paper	None Detected
	Layer 4	B2316896.255	Black	Tar	None Detected
76-256	Layer 1	B2316896.256	Black	Epdm Roof	None Detected
	Layer 2	B2316896.256	Yellow	Foam	None Detected
	Layer 3	B2316896.256	Brown	Tar Paper	None Detected
	Layer 4	B2316896.256	Black	Tar	None Detected
76-257	Layer 1	B2316896.257	Black	Epdm Roof	None Detected
	Layer 2	B2316896.257	Yellow	Foam	None Detected
	Layer 3	B2316896.257	Brown	Tar Paper	None Detected
	Layer 4	B2316896.257	Black	Tar	None Detected
77-258	Layer 1	B2316896.258	Gray,Black	Asphalt And Tar	None Detected
	Layer 2	B2316896.258	Brown	Wood Fiber Roof	None Detected
77-259	Layer 1	B2316896.259	Gray,Black	Asphalt And Tar	None Detected
	Layer 2	B2316896.259	Brown	Wood Fiber Roof	None Detected
77-260	Layer 1	B2316896.260	Gray,Black	Asphalt And Tar	None Detected
	Layer 2	B2316896.260	Brown	Wood Fiber Roof	None Detected
78-261	Layer 1	B2316896.261	Gray	Slate Shingle	None Detected
	Layer 2	B2316896.261	Brown	Wood Fiberboard	None Detected
	Layer 3	B2316896.261	Black	Tar Paper	None Detected
78-262	Layer 1	B2316896.262	Gray	Slate Shingle	None Detected
	Layer 2	B2316896.262	Brown	Wood Fiberboard	None Detected
	Layer 3	B2316896.262	Black	Tar Paper	None Detected
78-263	Layer 1	B2316896.263	Gray	Slate Shingle	None Detected
	Layer 2	B2316896.263	Brown	Wood Fiberboard	None Detected
	Layer 3	B2316896.263	Black	Tar Paper	None Detected
264		B2316896.264		Sample Not Submitted	
265		B2316896.265		Sample Not Submitted	



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Asbestos Report Summary

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PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
266		B2316896.266		Sample Not Submitted	
267		B2316896.267		Sample Not Submitted	
268		B2316896.268		Sample Not Submitted	
269		B2316896.269		Sample Not Submitted	
270		B2316896.270		Sample Not Submitted	
271		B2316896.271		Sample Not Submitted	
272		B2316896.272		Sample Not Submitted	
273		B2316896.273		Sample Not Submitted	
274		B2316896.274		Sample Not Submitted	
275		B2316896.275		Sample Not Submitted	
276		B2316896.276		Sample Not Submitted	
277		B2316896.277		Sample Not Submitted	
278		B2316896.278		Sample Not Submitted	
84-279		B2316896.279	White	Interior Door Caulking	None Detected
84-280		B2316896.280	White	Interior Door Caulking	None Detected
84-281		B2316896.281	White	Interior Door Caulking	None Detected
85-282		B2316896.282	White	Interior Window Caulking	None Detected
85-283		B2316896.283	White	Interior Window Caulking	None Detected
85-284		B2316896.284	White	Interior Window Caulking	None Detected
86-285		B2316896.285	Black	Tar Paper	None Detected
86-286		B2316896.286	Black	Tar Paper	None Detected
86-287		B2316896.287	Black	Tar Paper	None Detected
87-288	Layer 1	B2316896.288	Black	Shingle	None Detected
	Layer 2	B2316896.288	Black	Tar Paper	None Detected
87-289	Layer 1	B2316896.289	Black	Shingle	None Detected
	Layer 2	B2316896.289	Black	Tar Paper	None Detected
87-290	Layer 1	B2316896.290	Black	Shingle	None Detected
	Layer 2	B2316896.290	Black	Tar Paper	None Detected
88-291		B2316896.291	White	Exterior Window Glazing	None Detected
88-292		B2316896.292	White	Exterior Window Glazing	None Detected
88-293		B2316896.293	White	Exterior Window Glazing	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
89-294		B2316896.294A	White	Fiber Re-enforced Plastic Board	None Detected
		B2316896.294B	Tan	Mastic	None Detected
89-295		B2316896.295A	White	Fiber Re-enforced Plastic Board	None Detected
		B2316896.295B	Tan	Mastic	None Detected
89-296		B2316896.296A	White	Fiber Re-enforced Plastic Board	None Detected
		B2316896.296B	Tan	Mastic	None Detected
90-297		B2316896.297	White	Sink Undercoat	None Detected
90-298		B2316896.298	White	Sink Undercoat	None Detected
90-299		B2316896.299	White	Sink Undercoat	None Detected
91-300		B2316896.300	Black,Brown	Tarpaper	None Detected
91-301		B2316896.301	Black,Brown	Tarpaper	None Detected
91-302		B2316896.302	Black,Brown	Tarpaper	None Detected
92-303		B2316896.303	White,Beige	Caulking	None Detected
92-304		B2316896.304	White,Beige	Caulking	None Detected
92-305		B2316896.305	White,Beige	Caulking	None Detected
93-306	Layer 1	B2316896.306	Tan,Gray	Ceramic Tile	None Detected
	Layer 2	B2316896.306	Gray	Grout	None Detected
	Layer 3	B2316896.306	White	Mortar	None Detected
93-307	Layer 1	B2316896.307	Tan,Gray	Ceramic Tile	None Detected
	Layer 2	B2316896.307	Gray	Grout	None Detected
	Layer 3	B2316896.307	White	Mortar	None Detected
93-308	Layer 1	B2316896.308	Tan,Gray	Ceramic Tile	None Detected
	Layer 2	B2316896.308	Gray	Grout	None Detected
	Layer 3	B2316896.308	White	Mortar	None Detected
94-309		B2316896.309	Gray	Grout	None Detected
94-310		B2316896.310	Gray	Grout	None Detected
94-311		B2316896.311	Gray	Grout	None Detected
95-312		B2316896.312	Gray	Mortar	None Detected
95-313		B2316896.313	Gray	Mortar	None Detected
95-314		B2316896.314	Gray	Mortar	None Detected
96-315	Layer 1	B2316896.315	Beige,Off-white	Plaster Skim Coat	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B2316896.315	Gray	Plaster Base Coat	None Detected
96-316	Layer 1	B2316896.316	Beige,Off-white	Plaster Skim Coat	None Detected
	Layer 2	B2316896.316	Gray	Plaster Base Coat	None Detected
96-317	Layer 1	B2316896.317	Beige,Off-white	Plaster Skim Coat	None Detected
	Layer 2	B2316896.317	Gray	Plaster Base Coat	None Detected
96-318	Layer 1	B2316896.318	Beige,Off-white	Plaster Skim Coat	None Detected
	Layer 2	B2316896.318	Gray	Plaster Base Coat	None Detected
96-319	Layer 1	B2316896.319	Beige,Off-white	Plaster Skim Coat	None Detected
	Layer 2	B2316896.319	Gray	Plaster Base Coat	None Detected
96-320	Layer 1	B2316896.320	Beige,Off-white	Plaster Skim Coat	None Detected
	Layer 2	B2316896.320	Gray	Plaster Base Coat	None Detected
96-321	Layer 1	B2316896.321	Tan,Off-white	Plaster Skim Coat	None Detected
	Layer 2	B2316896.321	Gray	Plaster Base Coat	None Detected
97-322		B2316896.322	Off-white,Gray	Ceiling Tile	None Detected
97-323		B2316896.323	Off-white,Gray	Ceiling Tile	None Detected
97-324		B2316896.324	Off-white,Gray	Ceiling Tile	None Detected
98-325	Layer 1	B2316896.325	Tan,Gray	Flooring	None Detected
	Layer 2	B2316896.325	Black,Gray	Paper	None Detected
98-326	Layer 1	B2316896.326	Tan,Gray	Flooring	None Detected
	Layer 2	B2316896.326	Black,Gray	Paper	None Detected
98-327	Layer 1	B2316896.327	Tan,Gray	Flooring	None Detected
	Layer 2	B2316896.327	Black,Gray	Paper	None Detected
99-328		B2316896.328A	Off-white,Tan	Linoleum	None Detected
		B2316896.328B	Yellow	Mastic	None Detected
99-329		B2316896.329A	Off-white,Tan	Linoleum	None Detected
		B2316896.329B	Yellow	Mastic	None Detected
99-330		B2316896.330A	Off-white,Tan	Linoleum	None Detected
		B2316896.330B	Yellow	Mastic	None Detected
100-331		B2316896.331A	Tan,Blue	Linoleum	None Detected
		B2316896.331B	Black,Off-white	Mastic	None Detected
100-332		B2316896.332A	Tan,Blue	Linoleum	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
		B2316896.332B	Black,Off-white	Mastic	None Detected
100-333		B2316896.333A	Tan,Blue	Linoleum	None Detected
		B2316896.333B	Black,Off-white	Mastic	None Detected
101-334		B2316896.334	Gray	Sink Undercoating	None Detected
101-335		B2316896.335	Gray	Sink Undercoating	None Detected
101-336		B2316896.336	Gray	Sink Undercoating	None Detected
102-337	Layer 1	B2316896.337	White	Ceramic Tile	None Detected
	Layer 2	B2316896.337	White	Grout	None Detected
	Layer 3	B2316896.337	Gray	Mortar	None Detected
102-338	Layer 1	B2316896.338	White	Ceramic Tile	None Detected
	Layer 2	B2316896.338	White	Grout	None Detected
	Layer 3	B2316896.338	Gray	Mortar	None Detected
102-339	Layer 1	B2316896.339	White	Ceramic Tile	None Detected
	Layer 2	B2316896.339	White	Grout	None Detected
	Layer 3	B2316896.339	Dark Gray	Mortar	None Detected
	Layer 4	B2316896.339	Light Gray	Mortar	None Detected
103-340	Layer 1	B2316896.340A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.340A	White	Grout	None Detected
	Layer 3	B2316896.340A	White,Off-white	Mortar	None Detected
	Layer 4	B2316896.340A	Gray	Mortar	None Detected
		B2316896.340B	Yellow,Tan	Mastic	None Detected
103-341	Layer 1	B2316896.341A	White	Ceramic Tile	None Detected
	Layer 2	B2316896.341A	White	Grout	None Detected
	Layer 3	B2316896.341A	White	Mortar	None Detected
	Layer 4	B2316896.341A	Gray	Mortar	None Detected
		B2316896.341B	Yellow,Tan	Mastic	None Detected
103-342	Layer 1	B2316896.342	White	Ceramic Tile	None Detected
	Layer 2	B2316896.342	White	Grout	None Detected
	Layer 3	B2316896.342	White	Mortar	None Detected
	Layer 4	B2316896.342	Gray	Mortar	None Detected
104-343	Layer 1	B2316896.343	Red,Black	Brick	None Detected



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Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: 2160 Versailles Road Asbestos Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
	Layer 2	B2316896.343	Gray,Black	Mortar	None Detected
104-344	Layer 1	B2316896.344	Red,Black	Brick	None Detected
	Layer 2	B2316896.344	Gray,Black	Mortar	None Detected
104-345	Layer 1	B2316896.345	Red,Black	Brick	None Detected
	Layer 2	B2316896.345	Gray,Black	Mortar	None Detected
105-346		B2316896.346A	Tan,Brown	Vermiculite Insulation	Tremolite <1%
		B2316896.346B		Vermiculite Insulation (400 Point Count)	Tremolite 0.25%
105-347		B2316896.347A	Tan,Brown	Vermiculite Insulation	Tremolite <1%
		B2316896.347B		Vermiculite Insulation (400 Point Count)	Tremolite <0.25%
105-348		B2316896.348A	Tan,Brown	Vermiculite Insulation	Tremolite <1%
		B2316896.348B		Vermiculite Insulation (400 Point Count)	Tremolite <0.25%
106-349		B2316896.349	Black	Tarpaper	None Detected
106-350		B2316896.350	Black	Tarpaper	None Detected
106-351		B2316896.351	Black	Tarpaper	None Detected
107-352		B2316896.352	Off-white,White	Plaster	None Detected
107-353		B2316896.353	Off-white,White	Plaster	None Detected
107-354		B2316896.354	Off-white,White	Plaster	None Detected
108-355	Layer 1	B2316896.355	Tan,White	Joint Compound	None Detected
	Layer 2	B2316896.355	Tan,Off-white	Drywall	None Detected
108-356	Layer 1	B2316896.356	Tan,White	Joint Compound	None Detected
	Layer 2	B2316896.356	Tan,Off-white	Drywall/tape	None Detected
108-357	Layer 1	B2316896.357A	Tan,Off-white	Joint Compound	Chrysotile <1%
	Layer 2	B2316896.357A	Tan,Off-white	Drywall	None Detected
	Layer 3	B2316896.357A	Tan,Off-white	Drywall/Joint Compound	Chrysotile <1%
	Layer 1	B2316896.357B		Joint Compound (400 Point Count)	Chrysotile 0.50%
	Layer 2	B2316896.357B		Drywall/Joint Compound (Composite Result from Point Count)	Chrysotile 0.05%
109-358		B2316896.358	White	Insulation	None Detected



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Asbestos Report Summary

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PROJECT: 2160 Versailles Road Asbestos
Inspection, N1237347

LAB CODE: B2316896

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
109-359		B2316896.359	White	Insulation	None Detected
109-360		B2316896.360	White	Insulation	None Detected
109-361		B2316896.361	White	Insulation	None Detected
109-362		B2316896.362	White	Insulation	None Detected
109-363		B2316896.363	White	Insulation	None Detected
109-364		B2316896.364	White	Insulation	None Detected
110-365		B2316896.365	Gray,Brown	Window Caulking	None Detected
110-366		B2316896.366	Gray,Brown	Window Caulking	None Detected
110-367		B2316896.367	Gray,Brown	Window Caulking	None Detected
111-368		B2316896.368	Gray	Window Caulking	None Detected
111-369		B2316896.369	Gray	Window Caulking	None Detected
111-370		B2316896.370	Gray	Window Caulking	None Detected
112-371		B2316896.371	Clear	Caulking	None Detected
112-372		B2316896.372	Clear	Caulking	None Detected
112-373		B2316896.373	Clear	Caulking	None Detected
113-374		B2316896.374	Off-white,Red	Caulking	None Detected
113-375		B2316896.375	Off-white,Red	Caulking	None Detected
113-376		B2316896.376	Brown,Red	Caulking	None Detected
114-377		B2316896.377	Off-white,Red	Window Caulking	None Detected
114-378	Layer 1	B2316896.378	Off-white	Window Caulking	Chrysotile 2%
	Layer 2	B2316896.378	Off-white,Red	Window Caulking	None Detected
114-379		B2316896.379	Off-white,Red	Window Caulking	None Detected
115-380		B2316896.380	Off-white,White	Window Caulking	None Detected
115-381		B2316896.381	Off-white,White	Window Caulking	None Detected
115-382		B2316896.382	Off-white,White	Window Caulking	None Detected
116-383		B2316896.383	Off-white,White	Window Glazing	None Detected
116-384		B2316896.384	Off-white,White	Window Glazing	None Detected
116-385		B2316896.385	Off-white,White	Window Glazing	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2316896
Date Received: 08-07-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
01-01 B2316896.001	Texture	Homogeneous	50%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	20%	Silicates	
		Bound			
Samples B2316896.001 - B2316896.203 analyzed by Greg Ruff					
01-02 B2316896.002	Texture	Homogeneous	50%	Paint	None Detected
		White	35%	Binder	
		Non-fibrous	15%	Calc Carb	
		Bound			
01-03 B2316896.003	Texture	Homogeneous	50%	Paint	None Detected
		White	35%	Binder	
		Non-fibrous	15%	Calc Carb	
		Bound			
01-04 B2316896.004	Texture	Homogeneous	50%	Paint	None Detected
		White	35%	Binder	
		Non-fibrous	15%	Calc Carb	
		Bound			
01-05 B2316896.005	Texture	Homogeneous	50%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	20%	Silicates	
		Bound			
01-06 B2316896.006	Texture	Homogeneous	50%	Paint	None Detected
		White	35%	Binder	
		Non-fibrous	15%	Calc Carb	
		Bound			
01-07 B2316896.007	Texture	Homogeneous	50%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	20%	Silicates	
		Bound			

ASBESTOS BULK ANALYSIS

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Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
02-08 Layer 1 B2316896.008	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	65%	Calc Carb	
		Bound			

Layer 2 B2316896.008	Plaster Base Coat	Homogeneous	75%	Binder	None Detected
		White	25%	Perlite	
		Non-fibrous			
		Bound			
No drywall/joint compound present. Sample appears to be plaster.					
02-09 Layer 1 B2316896.009	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	65%	Calc Carb	
		Bound			

Layer 2 B2316896.009	Plaster Base Coat	Homogeneous	75%	Binder	None Detected
		White	25%	Perlite	
		Non-fibrous			
		Bound			
No drywall/joint compound present. Sample appears to be plaster.					
02-10 Layer 1 B2316896.010	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	65%	Calc Carb	
		Bound			

Layer 2 B2316896.010	Plaster Base Coat	Homogeneous	75%	Binder	None Detected
		White	25%	Perlite	
		Non-fibrous			
		Bound			
No drywall/joint compound present. Sample appears to be plaster.					
03-11 B2316896.011	Sink Undercoating	Homogeneous	20%	Cellulose	None Detected
		Gray	80%	Mastic	
		Fibrous			
		Bound			

ASBESTOS BULK ANALYSIS

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Client: Terracon Consultants, Inc.
611 Lunken Park Drive
Cincinnati, OH 45226

Lab Code: B2316896
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Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
03-12 B2316896.012	Sink Undercoating	Homogeneous Gray Fibrous Bound	20%	Cellulose	80%	Mastic	None Detected
03-13 B2316896.013	Sink Undercoating	Homogeneous Gray Fibrous Bound	20%	Cellulose	80%	Mastic	None Detected
04-14 B2316896.014	Texture	Heterogeneous Gray,White Non-fibrous Bound			40%	Paint	None Detected
					35%	Binder	
					25%	Calc Carb	
04-15 B2316896.015	Texture	Heterogeneous Gray,White Non-fibrous Bound			40%	Paint	None Detected
					35%	Binder	
					25%	Calc Carb	
04-16 B2316896.016	Texture	Heterogeneous Gray,White Non-fibrous Bound			40%	Paint	None Detected
					35%	Binder	
					25%	Calc Carb	
05-17 Layer 1 B2316896.017 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Binder	None Detected
Layer 2 B2316896.017 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound			40%	Binder	None Detected
					60%	Silicates	

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
B2316896.017 B	Mastic	Homogeneous Gray Non-fibrous Bound	100%	Mastic	None Detected
No mortar present					
05-18 Layer 1 B2316896.018 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.018 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
B2316896.018 B	Mastic	Homogeneous Gray Non-fibrous Bound	100%	Mastic	None Detected
No mortar present					
05-19 Layer 1 B2316896.019 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.019 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
B2316896.019 B	Mastic	Homogeneous Gray Non-fibrous Bound	100%	Mastic	None Detected
No mortar present					

ASBESTOS BULK ANALYSIS

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Client: Terracon Consultants, Inc.
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Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
06-20 B2316896.020	Door Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
		Bound			
06-21 B2316896.021	Door Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
		Bound			
06-22 B2316896.022	Door Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
		Bound			
07-23 B2316896.023	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
		Bound			
07-24 B2316896.024	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
		Bound			
07-25 B2316896.025	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White, Beige	90%	Caulk	
		Non-fibrous			
		Bound			
08-26 B2316896.026	Plaster Base Coat	Heterogeneous	5%	Paint	None Detected
		Gray	35%	Binder	
		Non-fibrous	60%	Silicates	
		Bound			

No plaster skim coat present

ASBESTOS BULK ANALYSIS

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Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %		
			Fibrous	Non-Fibrous			
08-27 B2316896.027 A	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected		
		White	50%	Binder			
		Non-fibrous	45%	Silicates			
		Bound					
B2316896.027 B	Drywall	Heterogeneous	10%	Cellulose	90%	Gypsum	None Detected
		Gray					
		Fibrous					
		Bound					
No plaster base coat present							
08-28 Layer 1 B2316896.028	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected		
		White	50%	Binder			
		Non-fibrous	45%	Silicates			
		Bound					
Layer 2 B2316896.028	Plaster Base Coat	Homogeneous	<1%	Hair	35%	Binder	None Detected
		Gray			65%	Silicates	
		Fibrous					
		Bound					
09-29 Layer 1 B2316896.029	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected		
		White	50%	Binder			
		Non-fibrous	45%	Calc Carb			
		Bound					
Layer 2 B2316896.029	Plaster Base Coat	Homogeneous	75%	Binder	None Detected		
		White	25%	Perlite			
		Non-fibrous					
		Bound					
09-30 Layer 1 B2316896.030	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected		
		White	50%	Binder			
		Non-fibrous	45%	Calc Carb			
		Bound					

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %			
			Fibrous		Non-Fibrous				
Layer 2 B2316896.030	Plaster Base Coat	Homogeneous White Non-fibrous Bound	75%	Binder	25%	Perlite	None Detected		
09-31 B2316896.031	Plaster Base Coat	Homogeneous White Non-fibrous Bound	75%	Binder	25%	Perlite	None Detected		
32 B2316896.032	Sample Not Submitted								
10-33 Layer 1 B2316896.033	Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Paint	40%	Binder	50%	Calc Carb	None Detected
Layer 2 B2316896.033	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected		
10-34 Layer 1 B2316896.034	Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Paint	40%	Binder	50%	Calc Carb	None Detected
Layer 2 B2316896.034	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected		
10-35 Layer 1 B2316896.035	Joint Compound	Heterogeneous White Non-fibrous Bound	10%	Paint	40%	Binder	50%	Calc Carb	None Detected

ASBESTOS BULK ANALYSIS

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Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
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Lab Code: B2316896
Date Received: 08-07-23
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Date Reported: 08-14-23

Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
Layer 2 B2316896.035	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected
11-36 B2316896.036	Tarpaper	Homogeneous Tan Fibrous Loosely Bound	100%	Cellulose			None Detected
11-37 B2316896.037	Tarpaper	Homogeneous Tan Fibrous Loosely Bound	100%	Cellulose			None Detected
11-38 B2316896.038	Tarpaper	Homogeneous Tan Fibrous Loosely Bound	100%	Cellulose			None Detected
12-39 Layer 1 B2316896.039 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Binder	None Detected
Layer 2 B2316896.039 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound			40%	Binder	None Detected
					60%	Silicates	
Layer 3 B2316896.039 A	Mortar	Homogeneous Gray Non-fibrous Tightly Bound			80%	Binder	None Detected
					20%	Silicates	

ASBESTOS BULK ANALYSIS

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Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2316896
Date Received: 08-07-23
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Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 4 B2316896.039 A	Mortar	Homogeneous Dark Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected
B2316896.039 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
12-40 Layer 1 B2316896.040 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.040 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.040 A	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	80% 20%	Binder Silicates	None Detected
Layer 4 B2316896.040 A	Mortar	Homogeneous Dark Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected
B2316896.040 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2316896
Date Received: 08-07-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
12-41 Layer 1 B2316896.041 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.041 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.041 A	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	80% 20%	Binder Silicates	None Detected
Layer 4 B2316896.041 A	Mortar	Homogeneous Dark Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected
B2316896.041 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
13-42 B2316896.042	Window Glazing	Heterogeneous White Non-fibrous Bound	5% 60% 35%	Paint Binder Calc Carb	None Detected
13-43 B2316896.043	Window Glazing	Heterogeneous White Non-fibrous Bound	5% 60% 35%	Paint Binder Calc Carb	None Detected

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
13-44 B2316896.044	Window Glazing	Heterogeneous White Non-fibrous Bound	5% 60% 35%	Paint Binder Calc Carb	None Detected
14-45 B2316896.045	Flooring	Homogeneous Black,White Non-fibrous Tightly Bound	30% 45% 25%	Binder Silicates Gravel	None Detected
14-46 B2316896.046	Flooring	Homogeneous Black,White Non-fibrous Tightly Bound	30% 45% 25%	Binder Silicates Gravel	None Detected
14-47 B2316896.047	Flooring	Homogeneous Black,White Non-fibrous Tightly Bound	30% 45% 25%	Binder Silicates Gravel	None Detected
15-48 B2316896.048	Texture	Heterogeneous White Non-fibrous Bound	50% 30% 20%	Paint Binder Silicates	None Detected
15-49 B2316896.049	Texture	Heterogeneous White Non-fibrous Bound	50% 30% 20%	Paint Binder Silicates	None Detected
15-50 B2316896.050	Texture	Heterogeneous White Non-fibrous Bound	50% 30% 20%	Paint Binder Silicates	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
16-51 Layer 1 B2316896.051	Surface Material	Heterogeneous	5%	Paint	None Detected
		White	40%	Binder	
		Non-fibrous Bound	55%	Calc Carb	
Layer 2 B2316896.051	Plaster Skim Coat	Homogeneous	35%	Binder	None Detected
		White	65%	Calc Carb	
		Non-fibrous Bound			
Layer 3 B2316896.051	Plaster Base Coat	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Bound			
16-52 Layer 1 B2316896.052	Surface Material	Heterogeneous	5%	Paint	None Detected
		White	40%	Binder	
		Non-fibrous Bound	55%	Calc Carb	
Layer 2 B2316896.052	Plaster Skim Coat	Homogeneous	35%	Binder	None Detected
		White	65%	Calc Carb	
		Non-fibrous Bound			
Layer 3 B2316896.052	Plaster Base Coat	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Bound			
16-53 Layer 1 B2316896.053	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous Bound	65%	Calc Carb	

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 2 B2316896.053	Plaster Base Coat	Homogeneous Brown Fibrous Bound	<1%	Hair	50%	Binder 50% Silicates	None Detected
16-54 Layer 1 B2316896.054	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			5% 30% 65%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.054	Plaster Base Coat	Homogeneous Brown Fibrous Bound	<1%	Hair	50% 50%	Binder Silicates	None Detected
16-55 Layer 1 B2316896.055	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			5% 30% 65%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.055	Plaster Base Coat	Homogeneous Brown Fibrous Bound	<1%	Hair	50% 50%	Binder Silicates	None Detected
16-56 Layer 1 B2316896.056	Plaster Skim Coat	Heterogeneous White Non-fibrous Bound			5% 30% 65%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.056	Plaster Base Coat	Homogeneous Brown Fibrous Bound	<1%	Hair	50% 50%	Binder Silicates	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
16-57 Layer 1 B2316896.057 A	Plaster Skim Coat	Heterogeneous	5%	Paint	None Detected
		White	30%	Binder	
		Non-fibrous	65%	Calc Carb	
Layer 2 B2316896.057 A	Plaster Base Coat	Homogeneous	<1%	Hair	<1% Chrysotile
		Gray	40%	Binder	
		Fibrous	60%	Silicates	
B2316896.057 B	Plaster Base Coat (400 Point Count)				0.50% Chrysotile
(2 asbestos points / 400 total) x 100 = 0.50% Chrysotile					
17-58 B2316896.058	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
17-59 B2316896.059	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
17-60 B2316896.060	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
18-61 B2316896.061	Window Caulking	Heterogeneous	10%	Paint	None Detected
		White	90%	Caulk	
		Non-fibrous			
		Bound			

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
18-62 B2316896.062	Window Caulking	Heterogeneous White Non-fibrous Bound	10% 90%	Paint Caulk	None Detected
18-63 B2316896.063	Window Caulking	Heterogeneous White Non-fibrous Bound	10% 90%	Paint Caulk	None Detected
64 B2316896.064	Sample Not Submitted				
65 B2316896.065	Sample Not Submitted				
66 B2316896.066	Sample Not Submitted				
20-67 Layer 1 B2316896.067	Brick	Homogeneous Tan Non-fibrous Tightly Bound	75% 25%	Binder Silicates	None Detected
Layer 2 B2316896.067	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected
20-68 Layer 1 B2316896.068	Brick	Homogeneous Tan Non-fibrous Tightly Bound	75% 25%	Binder Silicates	None Detected
Layer 2 B2316896.068	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
20-69 Layer 1 B2316896.069	Brick	Homogeneous	75%	Binder	None Detected
		Tan	25%	Silicates	
		Non-fibrous Tightly Bound			
Layer 2 B2316896.069	Mortar	Homogeneous	30%	Binder	None Detected
		Gray	70%	Silicates	
		Non-fibrous Tightly Bound			
21-70 Layer 1 B2316896.070	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Peach			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.070	Grout	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			
Layer 3 B2316896.070	Mortar	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			
21-71 Layer 1 B2316896.071	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Peach			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.071	Grout	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 3 B2316896.071	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	40%	Binder 60% Silicates	None Detected
21-72 Layer 1 B2316896.072	Ceramic Tile	Homogeneous Peach Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.072	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40%	Binder 60% Silicates	None Detected
Layer 3 B2316896.072	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	40%	Binder 60% Silicates	None Detected
22-73 Layer 1 B2316896.073	Ceramic Tile	Homogeneous Tan Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.073	Grout	Homogeneous Gray Non-fibrous Bound	40%	Binder 60% Silicates	None Detected
Layer 3 B2316896.073	Mortar	Homogeneous Gray Fibrous Bound	5%	Fiberglass 40% Binder 55% Silicates	None Detected

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
22-74 Layer 1 B2316896.074	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Tan			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.074	Grout	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Bound			
Layer 3 B2316896.074	Mortar	Homogeneous	5%	Fiberglass	None Detected
		Gray	40%	Binder	
		Fibrous Bound	55%	Silicates	
22-75 Layer 1 B2316896.075	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Tan			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.075	Grout	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Bound			
Layer 3 B2316896.075	Mortar	Homogeneous	5%	Fiberglass	None Detected
		Gray	40%	Binder	
		Fibrous Bound	55%	Silicates	
23-76 B2316896.076 A	Covebase	Homogeneous	100%	Vinyl	None Detected
		Gray			
		Non-fibrous Bound			

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
B2316896.076 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
23-77 B2316896.077 A	Covebase	Homogeneous Gray Non-fibrous Bound	100%	Vinyl	None Detected
B2316896.077 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
23-78 B2316896.078 A	Covebase	Homogeneous Gray Non-fibrous Bound	100%	Vinyl	None Detected
B2316896.078 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
24-79 B2316896.079	Wall Stabilizer	Heterogeneous White, Gray Non-fibrous Tightly Bound	2% 33% 65%	Paint Binder Silicates	None Detected
24-80 B2316896.080	Wall Stabilizer	Heterogeneous White, Gray Non-fibrous Tightly Bound	2% 33% 65%	Paint Binder Silicates	None Detected

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			Fibrous	Non-Fibrous	
24-81 B2316896.081	Wall Stabilizer	Heterogeneous	2%	Paint	None Detected
		White, Gray	33%	Binder	
		Non-fibrous	65%	Silicates	
		Tightly Bound			
24-82 B2316896.082	Wall Stabilizer	Heterogeneous	2%	Paint	None Detected
		White, Gray	33%	Binder	
		Non-fibrous	65%	Silicates	
		Tightly Bound			
24-83 B2316896.083	Wall Stabilizer	Heterogeneous	2%	Paint	None Detected
		White, Gray	33%	Binder	
		Non-fibrous	65%	Silicates	
		Tightly Bound			
24-84 B2316896.084	Wall Stabilizer	Heterogeneous	<1% Talc	10% Paint	None Detected
		White, Gray		50% Binder	
		Non-fibrous		40% Silicates	
		Tightly Bound			
24-85 B2316896.085	Wall Stabilizer	Heterogeneous	2%	Paint	None Detected
		White, Gray	33%	Binder	
		Non-fibrous	65%	Silicates	
		Tightly Bound			
25-86 Layer 1 B2316896.086	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous			
Layer 2 B2316896.086	Grout	Homogeneous	40%	Binder	None Detected
	Gray		60%	Silicates	
	Non-fibrous Bound				

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			Fibrous	Non-Fibrous		
Layer 3 B2316896.086	Mortar	Homogeneous Gray Fibrous Bound	5%	Fiberglass	40% Binder 55% Silicates	None Detected
25-87 Layer 1 B2316896.087	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound			100% Binder	None Detected
Layer 2 B2316896.087	Grout	Homogeneous Gray Non-fibrous Bound			40% Binder 60% Silicates	None Detected
Layer 3 B2316896.087	Mortar	Homogeneous Gray Fibrous Bound	5%	Fiberglass	40% Binder 55% Silicates	None Detected
25-88 Layer 1 B2316896.088	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound			100% Binder	None Detected
Layer 2 B2316896.088	Grout	Homogeneous Gray Non-fibrous Bound			40% Binder 60% Silicates	None Detected
Layer 3 B2316896.088	Mortar	Homogeneous Gray Fibrous Bound	5%	Fiberglass	40% Binder 55% Silicates	None Detected

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			Fibrous	Non-Fibrous	
26-89 Layer 1 B2316896.089	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.089	Grout	Homogeneous White Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.089	Mortar	Homogeneous White Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
26-90 Layer 1 B2316896.090	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.090	Grout	Homogeneous White Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.090	Mortar	Homogeneous White Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
26-91 Layer 1 B2316896.091	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected

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			Fibrous	Non-Fibrous	
Layer 2 B2316896.091	Grout	Homogeneous White Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.091	Mortar	Homogeneous White Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
27-92 B2316896.092	Door Caulk	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
27-93 B2316896.093	Door Caulk	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
27-94 B2316896.094	Door Caulk	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
28-95 Layer 1 B2316896.095	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.095	Grout	Homogeneous Brown Non-fibrous Bound	40% 60%	Binder Silicates	None Detected

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			Fibrous	Non-Fibrous	
Layer 3 B2316896.095	Mortar	Homogeneous Gray Non-fibrous Bound	40%	Binder 60% Silicates	None Detected
28-96 Layer 1 B2316896.096	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.096	Grout	Homogeneous Brown Non-fibrous Bound	40%	Binder 60% Silicates	None Detected
Layer 3 B2316896.096	Mortar	Homogeneous Gray Non-fibrous Bound	40%	Binder 60% Silicates	None Detected
28-97 Layer 1 B2316896.097	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.097	Grout	Homogeneous Brown Non-fibrous Bound	40%	Binder 60% Silicates	None Detected
Layer 3 B2316896.097	Mortar	Homogeneous Gray Non-fibrous Bound	40%	Binder 60% Silicates	None Detected

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			Fibrous	Non-Fibrous	
29-98 Layer 1 B2316896.098	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.098	Grout	Homogeneous White Non-fibrous Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.098	Mortar	Homogeneous White Non-fibrous Bound	40% 60%	Binder Silicates	None Detected
29-99 Layer 1 B2316896.099	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.099	Grout	Homogeneous White Non-fibrous Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.099	Mortar	Homogeneous White Non-fibrous Bound	40% 60%	Binder Silicates	None Detected
29-100 Layer 1 B2316896.100	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2316896
Date Received: 08-07-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 2 B2316896.100	Grout	Homogeneous	40%	Binder	None Detected
		White	60%	Silicates	
		Non-fibrous			
		Bound			
Layer 3 B2316896.100	Mortar	Homogeneous	40%	Binder	None Detected
		White	60%	Silicates	
		Non-fibrous			
		Bound			
30-101 Layer 1 B2316896.101	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Cream, Tan			
		Non-fibrous			
		Bound			
Layer 2 B2316896.101	Grout	Homogeneous	50%	Binder	None Detected
		White	50%	Calc Carb	
		Non-fibrous			
		Bound			
Layer 3 B2316896.101	Mortar	Homogeneous	40%	Binder	None Detected
		White	60%	Silicates	
		Non-fibrous			
		Tightly Bound			
30-102 Layer 1 B2316896.102	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Cream, Tan			
		Non-fibrous			
		Bound			
Layer 2 B2316896.102	Grout	Homogeneous	50%	Binder	None Detected
		White	50%	Calc Carb	
		Non-fibrous			
		Bound			

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 3 B2316896.102	Mortar	Homogeneous White Non-fibrous Tightly Bound	40%	Binder 60% Silicates	None Detected
30-103 Layer 1 B2316896.103	Ceramic Tile	Homogeneous Cream, Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.103	Grout	Homogeneous White Non-fibrous Bound	50%	Binder 50% Calc Carb	None Detected
Layer 3 B2316896.103	Mortar	Homogeneous White Non-fibrous Tightly Bound	40%	Binder 60% Silicates	None Detected
31-104 Layer 1 B2316896.104	Ceramic Tile	Homogeneous Cream, Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.104	Grout	Homogeneous White Non-fibrous Bound	65%	Binder 35% Calc Carb	None Detected
Layer 3 B2316896.104	Mortar	Homogeneous White Non-fibrous Tightly Bound	50%	Binder 50% Silicates	None Detected

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			Fibrous	Non-Fibrous	
31-105 Layer 1 B2316896.105	Ceramic Tile	Homogeneous Cream, Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.105	Grout	Homogeneous White Non-fibrous Bound	65% 35%	Binder Calc Carb	None Detected
Layer 3 B2316896.105	Mortar	Homogeneous White Non-fibrous Tightly Bound	50% 50%	Binder Silicates	None Detected
31-106 Layer 1 B2316896.106	Ceramic Tile	Homogeneous Cream, Tan Non-fibrous Bound	100%	Binder	None Detected
Layer 2 B2316896.106	Grout	Homogeneous White Non-fibrous Bound	65% 35%	Binder Calc Carb	None Detected
Layer 3 B2316896.106	Mortar	Homogeneous White Non-fibrous Tightly Bound	50% 50%	Binder Silicates	None Detected
32-107 Layer 1 B2316896.107	Ceramic Tile	Homogeneous Tan Non-fibrous Bound	100%	Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 2 B2316896.107	Grout	Homogeneous	35%	Binder	None Detected
		Gray	65%	Silicates	
		Non-fibrous Tightly Bound			
Layer 3 B2316896.107	Mortar	Homogeneous	35%	Binder	None Detected
		Gray	65%	Silicates	
		Non-fibrous Bound			
32-108 Layer 1 B2316896.108	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Tan			
		Non-fibrous Bound			
Layer 2 B2316896.108	Grout	Homogeneous	35%	Binder	None Detected
		Gray	65%	Silicates	
		Non-fibrous Tightly Bound			
Layer 3 B2316896.108	Mortar	Homogeneous	35%	Binder	None Detected
		Gray	65%	Silicates	
		Non-fibrous Bound			
32-109 Layer 1 B2316896.109	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		Tan			
		Non-fibrous Bound			
Layer 2 B2316896.109	Grout	Homogeneous	35%	Binder	None Detected
		Gray	65%	Silicates	
		Non-fibrous Tightly Bound			

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 3 B2316896.109	Mortar	Homogeneous Gray Non-fibrous Bound			35% Binder 65% Silicates	None Detected	
33-110 B2316896.110 A	Linoleum	Heterogeneous White Fibrous Bound	25% <1%	Cellulose Fiberglass	50% 25%	Vinyl Binder	None Detected
B2316896.110 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
33-111 B2316896.111 A	Linoleum	Heterogeneous White Fibrous Bound	25% <1%	Cellulose Fiberglass	50% 25%	Vinyl Binder	None Detected
B2316896.111 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
33-112 B2316896.112 A	Linoleum	Heterogeneous White Fibrous Bound	25% <1%	Cellulose Fiberglass	50% 25%	Vinyl Binder	None Detected
B2316896.112 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
34-113 Layer 1 B2316896.113	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.113	Grout	Homogeneous Gray Non-fibrous Bound	50%	Binder Silicates	None Detected
Layer 3 B2316896.113	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	35%	Binder Silicates	None Detected
34-114 Layer 1 B2316896.114	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.114	Grout	Homogeneous Gray Non-fibrous Bound	50%	Binder Silicates	None Detected
Layer 3 B2316896.114	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	35%	Binder Silicates	None Detected
34-115 Layer 1 B2316896.115	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
Layer 2 B2316896.115	Grout	Homogeneous	50%	Binder	None Detected
		Gray	50%	Silicates	
		Non-fibrous Bound			
Layer 3 B2316896.115	Mortar	Homogeneous	35%	Binder	None Detected
		Gray	65%	Silicates	
		Non-fibrous Tightly Bound			
35-116 Layer 1 B2316896.116	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.116	Grout	Homogeneous	50%	Binder	None Detected
		Gray	50%	Calc Carb	
		Non-fibrous Bound			
Layer 3 B2316896.116	Mortar	Homogeneous	50%	Binder	None Detected
		Gray	50%	Calc Carb	
		Non-fibrous Bound			
35-117 Layer 1 B2316896.117	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.117	Grout	Homogeneous	50%	Binder	None Detected
		Gray	50%	Calc Carb	
		Non-fibrous Bound			

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID	Lab	Lab	NON-ASBESTOS COMPONENTS		ASBESTOS
Lab ID	Description	Attributes	Fibrous	Non-Fibrous	%
Layer 3 B2316896.117	Mortar	Homogeneous Gray Non-fibrous Bound	50%	Binder Calc Carb	None Detected
35-118 Layer 1 B2316896.118	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.118	Grout	Homogeneous Gray Non-fibrous Bound	50%	Binder Calc Carb	None Detected
Layer 3 B2316896.118	Mortar	Homogeneous Gray Non-fibrous Bound	50%	Binder Calc Carb	None Detected
36-119 Layer 1 B2316896.119	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.119	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40%	Binder Silicates	None Detected
Layer 3 B2316896.119	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	30%	Binder Silicates	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
36-120 Layer 1 B2316896.120	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.120	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.120	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected
36-121 Layer 1 B2316896.121	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.121	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.121	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	30% 70%	Binder Silicates	None Detected
37-122 B2316896.122 A	Floor Tile	Homogeneous White,Blue Non-fibrous Bound	90% 10%	Vinyl Calc Carb	None Detected

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
B2316896.122 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
37-123 B2316896.123 A	Floor Tile	Homogeneous White,Blue Non-fibrous Bound			90% 10%	Vinyl Calc Carb	None Detected
B2316896.123 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
37-124 B2316896.124 A	Floor Tile	Homogeneous White,Blue Non-fibrous Bound			90% 10%	Vinyl Calc Carb	None Detected
B2316896.124 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
38-125 B2316896.125	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose			None Detected
38-126 B2316896.126	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose			None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %	
			Fibrous	Non-Fibrous		
38-127 B2316896.127	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose	None Detected	
38-128 B2316896.128	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose	None Detected	
38-129 B2316896.129	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose	None Detected	
38-130 B2316896.130	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose	None Detected	
38-131 B2316896.131	Blown-in Insulation	Homogeneous Brown Fibrous Loose	100%	Cellulose	None Detected	
39-132 Layer 1 B2316896.132	Joint Compound	Heterogeneous White Non-fibrous Bound		5% 35% 60%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.132	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90% Gypsum	None Detected

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous		Non-Fibrous	
39-133 Layer 1 B2316896.133	Joint Compound	Heterogeneous			5%	Paint None Detected
		White			35%	
		Non-fibrous			60%	
		Bound				
Layer 2 B2316896.133	Drywall	Heterogeneous	10%	Cellulose	90%	Gypsum None Detected
		White				
		Fibrous				
		Bound				
39-134 Layer 1 B2316896.134	Joint Compound	Heterogeneous			5%	Paint None Detected
		White			35%	
		Non-fibrous			60%	
		Bound				
Layer 2 B2316896.134	Drywall	Heterogeneous	10%	Cellulose	90%	Gypsum None Detected
		White				
		Fibrous				
		Bound				
39-135 Layer 1 B2316896.135	Joint Compound	Heterogeneous			5%	Paint None Detected
		White			35%	
		Non-fibrous			60%	
		Bound				
Layer 2 B2316896.135	Drywall	Heterogeneous	10%	Cellulose	90%	Gypsum None Detected
		White				
		Fibrous				
		Bound				
39-136 Layer 1 B2316896.136	Joint Compound	Heterogeneous			5%	Paint None Detected
		White			35%	
		Non-fibrous			60%	
		Bound				

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			Fibrous		Non-Fibrous	
Layer 2 B2316896.136	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum None Detected
39-137 Layer 1 B2316896.137	Joint Compound	Heterogeneous White Non-fibrous Bound			5% 35% 60%	Paint Binder Calc Carb None Detected
Layer 2 B2316896.137	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum None Detected
39-138 Layer 1 B2316896.138	Surface Material	Heterogeneous White Non-fibrous Bound			5% 35% 60%	Paint Binder Calc Carb None Detected
Layer 2 B2316896.138	Plaster Skim Coat	Homogeneous White Non-fibrous Bound			30% 70%	Binder Calc Carb None Detected
Layer 3 B2316896.138	Plaster Base Coat	Homogeneous Gray Non-fibrous Bound			40% 60%	Binder Silicates None Detected
No drywall/ joint compound present. Sample appears to be plaster.						
40-139 B2316896.139	Duct Tape	Homogeneous White Fibrous Loosely Bound			35%	Binder 65% Chrysotile

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			Fibrous	Non-Fibrous	
40-140 B2316896.140	Duct Tape	Homogeneous White Fibrous Loosely Bound	35%	Binder	65% Chrysotile
40-141 B2316896.141	Duct Tape	Homogeneous White Fibrous Loosely Bound	35%	Binder	65% Chrysotile
41-142 B2316896.142	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
41-143 B2316896.143	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
41-144 B2316896.144	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
41-145 B2316896.145	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
41-146 B2316896.146	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected

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			Fibrous		Non-Fibrous		
41-147 B2316896.147	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass			None Detected
41-148 B2316896.148	Blown-in Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass			None Detected
42-149 B2316896.149 A	Sheet Flooring	Heterogeneous White Fibrous Bound	25%	Cellulose	50%	Vinyl Binder	None Detected
B2316896.149 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
42-150 B2316896.150 A	Sheet Flooring	Heterogeneous White Fibrous Bound	25%	Cellulose	50%	Vinyl Binder	None Detected
B2316896.150 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
42-151 B2316896.151 A	Sheet Flooring	Heterogeneous White Fibrous Bound	25%	Cellulose	50%	Vinyl Binder	None Detected

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			Fibrous		Non-Fibrous		
B2316896.151 B	Mastic	Homogeneous Yellow Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
43-152 B2316896.152	Tarpaper	Homogeneous Black Fibrous Bound	75%	Cellulose	25%	Tar	None Detected
43-153 B2316896.153	Tarpaper	Homogeneous Black Fibrous Bound	75%	Cellulose	25%	Tar	None Detected
43-154 B2316896.154	Tarpaper	Homogeneous Black Fibrous Bound	75%	Cellulose	25%	Tar	None Detected
44-155 B2316896.155	Window Glazing	Heterogeneous White Non-fibrous Bound	<1%	Talc	5% 60% 35%	Paint Binder Calc Carb	None Detected
44-156 B2316896.156	Window Glazing	Heterogeneous White Non-fibrous Bound	<1%	Talc	5% 60% 35%	Paint Binder Calc Carb	None Detected
44-157 B2316896.157	Window Glazing	Heterogeneous White, Tan Non-fibrous Bound			5% 60% 35%	Paint Binder Calc Carb	None Detected

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
45-158 Layer 1 B2316896.158	Asphalt Shingle	Heterogeneous Black Fibrous Bound	20%	Fiberglass	50%	Tar Silicates	None Detected
	Layer 2 B2316896.158	Tarpaper Homogeneous Black Fibrous Bound	75%	Cellulose	25%	Tar	None Detected
45-159 Layer 1 B2316896.159	Asphalt Shingle	Heterogeneous Black Fibrous Bound	20%	Fiberglass	50%	Tar Silicates	None Detected
	Layer 2 B2316896.159	Tarpaper Homogeneous Black Fibrous Bound	75%	Cellulose	25%	Tar	None Detected
45-160 Layer 1 B2316896.160	Asphalt Shingle	Heterogeneous Black Fibrous Bound	20%	Fiberglass	50%	Tar Silicates	None Detected
	Layer 2 B2316896.160	Tarpaper Homogeneous Black Fibrous Bound	75%	Cellulose	25%	Tar	None Detected
46-161 B2316896.161	Duct Mastic	Homogeneous Gray Fibrous Bound	2%	Synthetic Fiber	98%	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2316896
Date Received: 08-07-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
46-162 B2316896.162	Duct Mastic	Homogeneous Gray Fibrous Bound	2%	Synthetic Fiber 98%	Mastic	None Detected
46-163 B2316896.163	Duct Mastic	Homogeneous Gray Fibrous Bound	2%	Synthetic Fiber 98%	Mastic	None Detected
47-164 B2316896.164	Tarpaper	Homogeneous Tan Fibrous Loosely Bound	100%	Cellulose		None Detected
47-165 B2316896.165	Tarpaper	Homogeneous Tan Fibrous Loosely Bound	100%	Cellulose		None Detected
47-166 B2316896.166	Tarpaper	Homogeneous Tan Fibrous Loosely Bound	100%	Cellulose		None Detected
48-167 B2316896.167	Tarpaper	Homogeneous Gray Fibrous Bound	40%	Cellulose	60% Binder	None Detected
48-168 B2316896.168	Tarpaper	Homogeneous Gray Fibrous Bound	40%	Cellulose	60% Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

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			Fibrous		Non-Fibrous		
48-169 B2316896.169	Tarpaper	Homogeneous Gray Fibrous Bound	40%	Cellulose	60%	Binder	None Detected
49-170 B2316896.170	Flexible Duct Connector	Homogeneous Black Fibrous Bound	30%	Fiberglass	70%	Rubber	None Detected
49-171 B2316896.171	Flexible Duct Connector	Homogeneous Black Fibrous Bound	30%	Fiberglass	70%	Rubber	None Detected
49-172 B2316896.172	Flexible Duct Connector	Homogeneous Black Fibrous Bound	30%	Fiberglass	70%	Rubber	None Detected
50-173 Layer 1 B2316896.173	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound			100%	Binder	None Detected
Layer 2 B2316896.173	Grout	Homogeneous White Non-fibrous Bound			50%	Binder	None Detected
					50%	Silicates	
Layer 3 B2316896.173	Mortar	Homogeneous Gray Non-fibrous Tightly Bound			25%	Binder	None Detected
					75%	Silicates	

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ASBESTOS BULK PLM, EPA 600 METHOD

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			Fibrous	Non-Fibrous	
50-174 Layer 1 B2316896.174	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.174	Grout	Homogeneous	50%	Binder	None Detected
		White	50%	Silicates	
		Non-fibrous Bound			
Layer 3 B2316896.174	Mortar	Homogeneous	25%	Binder	None Detected
		Gray	75%	Silicates	
		Non-fibrous Tightly Bound			
50-175 Layer 1 B2316896.175	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.175	Grout	Homogeneous	50%	Binder	None Detected
		White	50%	Silicates	
		Non-fibrous Bound			
Layer 3 B2316896.175	Mortar	Homogeneous	25%	Binder	None Detected
		Gray	75%	Silicates	
		Non-fibrous Tightly Bound			
51-176 Layer 1 B2316896.176	Joint Compound	Heterogeneous	5%	Paint	None Detected
		White	40%	Binder	
		Non-fibrous Bound	55%	Calc Carb	

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ASBESTOS BULK PLM, EPA 600 METHOD

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			Fibrous		Non-Fibrous		
Layer 2 B2316896.176	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected
51-177 Layer 1 B2316896.177	Joint Compound	Heterogeneous White Non-fibrous Bound			5% 40% 55%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.177	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected
51-178 Layer 1 B2316896.178	Joint Compound	Heterogeneous White Non-fibrous Bound			5% 40% 55%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.178	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected
51-179 Layer 1 B2316896.179	Joint Compound	Heterogeneous White Non-fibrous Bound			5% 40% 55%	Paint Binder Calc Carb	None Detected
Layer 2 B2316896.179	Drywall	Heterogeneous White Fibrous Bound	10%	Cellulose	90%	Gypsum	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
51-180 Layer 1 B2316896.180	Joint Compound	Heterogeneous			5%	Paint	None Detected
		White			40%	Binder	
		Non-fibrous			55%	Calc Carb	
		Bound					
51-181 Layer 1 B2316896.181	Joint Compound	Heterogeneous			5%	Paint	None Detected
		White			40%	Binder	
		Non-fibrous			55%	Calc Carb	
		Bound					
51-182 Layer 1 B2316896.182	Joint Compound	Heterogeneous			5%	Paint	None Detected
		White			40%	Binder	
		Non-fibrous			55%	Calc Carb	
		Bound					
52-183 Layer 1 B2316896.183	Brick	Heterogeneous			<1%	Paint	None Detected
		Yellow			75%	Binder	
		Non-fibrous			25%	Silicates	
		Tightly Bound					

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			Fibrous	Non-Fibrous	
Layer 2 B2316896.183	Grout	Heterogeneous Gray Non-fibrous Tightly Bound	<1% 35% 65%	Paint Binder Silicates	None Detected
52-184 Layer 1 B2316896.184	Brick	Heterogeneous Yellow Non-fibrous Tightly Bound	<1% 75% 25%	Paint Binder Silicates	None Detected
Layer 2 B2316896.184	Grout	Heterogeneous Gray Non-fibrous Tightly Bound	<1% 35% 65%	Paint Binder Silicates	None Detected
52-185 Layer 1 B2316896.185	Brick	Heterogeneous Yellow Non-fibrous Tightly Bound	<1% 75% 25%	Paint Binder Silicates	None Detected
Layer 2 B2316896.185	Grout	Heterogeneous Gray Non-fibrous Tightly Bound	<1% 35% 65%	Paint Binder Silicates	None Detected
53-186 B2316896.186	Carpet Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
53-187 B2316896.187	Carpet Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

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			Fibrous	Non-Fibrous	
53-188 B2316896.188	Carpet Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
54-189 B2316896.189 A	Covebase	Homogeneous White Non-fibrous Bound	100%	Vinyl	None Detected
B2316896.189 B	Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic	None Detected
54-190 B2316896.190 A	Covebase	Homogeneous White Non-fibrous Bound	100%	Vinyl	None Detected
B2316896.190 B	Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic	None Detected
54-191 B2316896.191 A	Covebase	Homogeneous White Non-fibrous Bound	100%	Vinyl	None Detected
B2316896.191 B	Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
55-192 Layer 1 B2316896.192	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.192	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.192	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
55-193 Layer 1 B2316896.193	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.193	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.193	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
55-194 Layer 1 B2316896.194	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected

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			Fibrous	Non-Fibrous	
Layer 2 B2316896.194	Grout	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			
Layer 3 B2316896.194	Mortar	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			
56-195 Layer 1 B2316896.195 A	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous Tightly Bound			
Layer 2 B2316896.195 A	Grout	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			
Layer 3 B2316896.195 A	Mortar	Homogeneous	40%	Binder	None Detected
		Gray	60%	Silicates	
		Non-fibrous Tightly Bound			
B2316896.195 B	Mastic	Homogeneous	100%	Mastic	None Detected
56-196 Layer 1 B2316896.196 A	Ceramic Tile	Homogeneous	100%	Binder	None Detected
		White			
		Non-fibrous Tightly Bound			

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

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			Fibrous	Non-Fibrous	
Layer 2 B2316896.196 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.196 A	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
B2316896.196 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected
56-197 Layer 1 B2316896.197 A	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	100%	Binder	None Detected
Layer 2 B2316896.197 A	Grout	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
Layer 3 B2316896.197 A	Mortar	Homogeneous Gray Non-fibrous Tightly Bound	40% 60%	Binder Silicates	None Detected
B2316896.197 B	Mastic	Homogeneous Yellow Non-fibrous Bound	100%	Mastic	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
57-198 B2316896.198	Curtain	Homogeneous Red Fibrous Loosely Bound	100%	Cellulose			None Detected
57-199 B2316896.199	Curtain	Homogeneous Red Fibrous Loosely Bound	100%	Cellulose			None Detected
57-200 B2316896.200	Curtain	Homogeneous Red Fibrous Loosely Bound	100%	Cellulose			None Detected
58-201 B2316896.201	Duct Mastic	Homogeneous Tan Non-fibrous Bound	2%	Cellulose	98%	Mastic	None Detected
58-202 B2316896.202	Duct Mastic	Homogeneous Tan Non-fibrous Bound	2%	Cellulose	98%	Mastic	None Detected
58-203 B2316896.203	Duct Mastic	Homogeneous Tan Non-fibrous Bound	2%	Cellulose	98%	Mastic	None Detected
59-204 Layer 1 B2316896.204	Tar Roofing - Slate	Homogeneous Gray Non-fibrous Bound			100%	Binder	None Detected

Samples B2316896.204 - B2316896.299 analyzed by R.Steele.

ASBESTOS BULK ANALYSIS

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 2 B2316896.204	Tar Roofing - Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
59-205 Layer 1 B2316896.205	Tar Roofing - Slate	Homogeneous Gray Non-fibrous Bound			100%	Binder	None Detected
Layer 2 B2316896.205	Tar Roofing - Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
59-206 Layer 1 B2316896.206	Tar Roofing - Slate	Homogeneous Gray Non-fibrous Bound			100%	Binder	None Detected
Layer 2 B2316896.206	Tar Roofing - Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
60-207 B2316896.207	Rubber Flooring	Homogeneous Black Non-fibrous Bound			100%	Rubber	None Detected
60-208 B2316896.208	Rubber Flooring	Homogeneous Black Non-fibrous Bound			100%	Rubber	None Detected

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			Fibrous	Non-Fibrous	
60-209 B2316896.209	Rubber Flooring	Homogeneous Black Non-fibrous Bound	100%	Rubber	None Detected
61-210 B2316896.210	Exterior Window Glazing	Homogeneous White Non-fibrous Bound	80% 20%	Binder Calc Carb	None Detected
61-211 B2316896.211	Exterior Window Glazing	Homogeneous White Non-fibrous Bound	80% 20%	Binder Calc Carb	None Detected
61-212 B2316896.212	Exterior Window Glazing	Homogeneous White Non-fibrous Bound	80% 20%	Binder Calc Carb	None Detected
62-213 B2316896.213	Exterior Door Caulking	Heterogeneous White Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
62-214 B2316896.214	Exterior Door Caulking	Heterogeneous White Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
62-215 B2316896.215	Exterior Door Caulking	Heterogeneous White Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile

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			Fibrous	Non-Fibrous	
63-216 B2316896.216	Exterior Window Caulking	Heterogeneous	73%	Binder	5% Chrysotile
		White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
63-217 B2316896.217	Exterior Window Caulking	Heterogeneous	98%	Caulk	None Detected
		White	2%	Paint	
		Non-fibrous			
		Bound			
63-218 B2316896.218	Exterior Window Caulking	Heterogeneous	98%	Caulk	None Detected
		White	2%	Paint	
		Non-fibrous			
		Bound			
64-219 B2316896.219 A	Exterior Window Glazing	Heterogeneous	75%	Binder	3% Chrysotile
		White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
B2316896.219 B	Exterior Window Glazing (400 Point Count)				2.5% Chrysotile
(10 asbestos points / 400 total) x 100 = 2.50% Chrysotile					
64-220 B2316896.220 A	Exterior Window Glazing	Heterogeneous	75%	Binder	3% Chrysotile
		White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
B2316896.220 B	Sample Not Analyzed per COC				
64-221 B2316896.221	Exterior Window Glazing	Heterogeneous	78%	Binder	None Detected
		White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			

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			Fibrous	Non-Fibrous	
65-222 B2316896.222	Exterior Window Caulking	Heterogeneous	98%	Caulk	None Detected
		White	2%	Paint	
		Non-fibrous			
		Bound			
65-223 B2316896.223	Exterior Window Caulking	Heterogeneous	73%	Binder	5% Chrysotile
		White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
65-224 B2316896.224	Exterior Window Caulking	Heterogeneous	98%	Caulk	None Detected
		White	2%	Paint	
		Non-fibrous			
		Bound			
66-225 B2316896.225	Exterior Door Caulking Layer 1	Heterogeneous	98%	Caulk	None Detected
		White	2%	Paint	
		Non-fibrous			
		Bound			
Layer 2 B2316896.225	Exterior Door Caulking	Homogeneous	77%	Binder	3% Chrysotile
		Brown	20%	Calc Carb	
		Non-fibrous			
		Bound			
66-226 B2316896.226	Exterior Door Caulking	Heterogeneous	98%	Caulk	None Detected
		White	2%	Paint	
		Non-fibrous			
		Bound			
66-227 B2316896.227	Exterior Door Caulking	Heterogeneous	73%	Binder	5% Chrysotile
		White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			

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			Fibrous	Non-Fibrous	
67-228 Layer 1 B2316896.228	Exterior Window Caulking	Heterogeneous	98%	Caulk	None Detected
		White Non-fibrous Bound	2%	Paint	
Layer 2 B2316896.228	Exterior Window Caulking	Homogeneous	77%	Binder	3% Chrysotile
		Brown Non-fibrous Bound	20%	Calc Carb	
67-229 B2316896.229	Exterior Window Caulking	Heterogeneous White Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
67-230 B2316896.230	Exterior Window Caulking	Heterogeneous White Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
68-231 B2316896.231	Exterior Window Caulking	Heterogeneous White Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
68-232 B2316896.232	Exterior Window Caulking	Heterogeneous White Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
68-233 B2316896.233	Exterior Window Caulking	Heterogeneous White Non-fibrous Bound	98% 2%	Caulk Paint	None Detected

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
69-234 B2316896.234	Exterior Door Caulking	Heterogeneous Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
69-235 B2316896.235	Exterior Door Caulking	Heterogeneous Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
69-236 B2316896.236	Exterior Door Caulking	Heterogeneous Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
70-237 B2316896.237	Exterior Window Caulking	Heterogeneous Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
70-238 B2316896.238	Exterior Window Caulking	Heterogeneous Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
70-239 B2316896.239	Exterior Window Caulking	Heterogeneous Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
71-240 B2316896.240	Exterior Window Glazing	Heterogeneous Red,White Non-fibrous Bound	78% 20% 2%	Binder Calc Carb Paint	None Detected

ASBESTOS BULK ANALYSIS

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Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

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Date Analyzed: 08-14-23
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Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
71-241 B2316896.241	Exterior Window Glazing	Heterogeneous	78%	Binder	None Detected
		Red,White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
71-242 B2316896.242	Exterior Window Glazing	Heterogeneous	78%	Binder	None Detected
		Red,White	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
72-243 Layer 1 B2316896.243	Exterior Window Caulking	Heterogeneous	73%	Binder	5% Chrysotile
		White,Brown	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
Layer 2 B2316896.243	Exterior Window Caulking	Homogeneous	100%	Caulk	None Detected
		Clear			
		Non-fibrous			
		Bound			
72-244 Layer 1 B2316896.244	Exterior Window Caulking	Heterogeneous	73%	Binder	5% Chrysotile
		White,Brown	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			
Layer 2 B2316896.244	Exterior Window Caulking	Homogeneous	100%	Caulk	None Detected
		Clear			
		Non-fibrous			
		Bound			
72-245 Layer 1 B2316896.245	Exterior Window Caulking	Heterogeneous	73%	Binder	5% Chrysotile
		White,Brown	20%	Calc Carb	
		Non-fibrous	2%	Paint	
		Bound			

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			Fibrous	Non-Fibrous	
Layer 2 B2316896.245	Exterior Window Caulking	Homogeneous Clear Non-fibrous Bound	100%	Caulk	None Detected
73-246 B2316896.246	Exterior Door Caulking	Heterogeneous Gray Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
73-247 B2316896.247	Exterior Door Caulking	Heterogeneous Gray Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
73-248 B2316896.248	Exterior Door Caulking	Heterogeneous Gray Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
74-249 B2316896.249	Exterior Window Caulking	Heterogeneous Brown Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
74-250 B2316896.250	Exterior Window Caulking	Heterogeneous Brown Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile
74-251 B2316896.251	Exterior Window Caulking	Heterogeneous Brown Non-fibrous Bound	73% 20% 2%	Binder Calc Carb Paint	5% Chrysotile

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			Fibrous	Non-Fibrous	
75-252 B2316896.252	Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
75-253 B2316896.253	Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
75-254 B2316896.254	Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
76-255 Layer 1 B2316896.255	Epdm Roof	Homogeneous Black Non-fibrous Bound	100%	Rubber	None Detected
Layer 2 B2316896.255	Foam	Homogeneous Yellow Non-fibrous Bound	100%	Foam	None Detected
Layer 3 B2316896.255	Tar Paper	Homogeneous Brown Fibrous Bound	100%	Cellulose	None Detected
Layer 4 B2316896.255	Tar	Homogeneous Black Non-fibrous Bound	10%	Cellulose	90% Tar None Detected

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			Fibrous	Non-Fibrous		
76-256 Layer 1 B2316896.256	Epdm Roof	Homogeneous	100%	Rubber	None Detected	
		Black				
		Non-fibrous				
		Bound				
Layer 2 B2316896.256	Foam	Homogeneous	100%	Foam	None Detected	
		Yellow				
		Non-fibrous				
		Bound				
Layer 3 B2316896.256	Tar Paper	Homogeneous	100%	Cellulose	None Detected	
		Brown				
		Fibrous				
		Bound				
Layer 4 B2316896.256	Tar	Homogeneous	10%	Cellulose	90%	None Detected
		Black			Tar	
		Non-fibrous				
		Bound				
76-257 Layer 1 B2316896.257	Epdm Roof	Homogeneous	100%	Rubber	None Detected	
		Black				
		Non-fibrous				
		Bound				
Layer 2 B2316896.257	Foam	Homogeneous	100%	Foam	None Detected	
		Yellow				
		Non-fibrous				
		Bound				
Layer 3 B2316896.257	Tar Paper	Homogeneous	100%	Cellulose	None Detected	
		Brown				
		Fibrous				
		Bound				

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			Fibrous	Non-Fibrous		
Layer 4 B2316896.257	Tar	Homogeneous Black Non-fibrous Bound	10%	Cellulose 90%	Tar	None Detected
77-258 Layer 1 B2316896.258	Asphalt And Tar	Heterogeneous Gray,Black Non-fibrous Bound	20%	Synthetic Fiber 70% 10%	Tar Gravel	None Detected
Layer 2 B2316896.258	Wood Fiber Roof	Homogeneous Brown Fibrous Loosely Bound	100%	Cellulose		None Detected
77-259 Layer 1 B2316896.259	Asphalt And Tar	Heterogeneous Gray,Black Non-fibrous Bound	20%	Synthetic Fiber 70% 10%	Tar Gravel	None Detected
Layer 2 B2316896.259	Wood Fiber Roof	Homogeneous Brown Fibrous Loosely Bound	100%	Cellulose		None Detected
77-260 Layer 1 B2316896.260	Asphalt And Tar	Heterogeneous Gray,Black Non-fibrous Bound	20%	Synthetic Fiber 70% 10%	Tar Gravel	None Detected
Layer 2 B2316896.260	Wood Fiber Roof	Homogeneous Brown Fibrous Loosely Bound	100%	Cellulose		None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous	Non-Fibrous		
78-261 Layer 1 B2316896.261	Slate Shingle	Homogeneous Gray Non-fibrous Bound	100%	Binder		None Detected
Layer 2 B2316896.261	Wood Fiberboard	Homogeneous Brown Fibrous Loosely Bound	100%	Cellulose		None Detected
Layer 3 B2316896.261	Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30% Tar	None Detected
78-262 Layer 1 B2316896.262	Slate Shingle	Homogeneous Gray Non-fibrous Bound	100%	Binder		None Detected
Layer 2 B2316896.262	Wood Fiberboard	Homogeneous Brown Fibrous Loosely Bound	100%	Cellulose		None Detected
Layer 3 B2316896.262	Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30% Tar	None Detected
78-263 Layer 1 B2316896.263	Slate Shingle	Homogeneous Gray Non-fibrous Bound	100%	Binder		None Detected

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			Fibrous	Non-Fibrous		
Layer 2 B2316896.263	Wood Fiberboard	Homogeneous Brown Fibrous Loosely Bound	100% Cellulose			None Detected
Layer 3 B2316896.263	Tar Paper	Homogeneous Black Fibrous Bound	70% Cellulose	30% Tar		None Detected
264 B2316896.264	Sample Not Submitted					
265 B2316896.265	Sample Not Submitted					
266 B2316896.266	Sample Not Submitted					
267 B2316896.267	Sample Not Submitted					
268 B2316896.268	Sample Not Submitted					
269 B2316896.269	Sample Not Submitted					
270 B2316896.270	Sample Not Submitted					
271 B2316896.271	Sample Not Submitted					
272 B2316896.272	Sample Not Submitted					
273 B2316896.273	Sample Not Submitted					

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
274 B2316896.274	Sample Not Submitted				
275 B2316896.275	Sample Not Submitted				
276 B2316896.276	Sample Not Submitted				
277 B2316896.277	Sample Not Submitted				
278 B2316896.278	Sample Not Submitted				
84-279 B2316896.279	Interior Door Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
84-280 B2316896.280	Interior Door Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
84-281 B2316896.281	Interior Door Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
85-282 B2316896.282	Interior Window Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected
85-283 B2316896.283	Interior Window Caulking	Homogeneous White Non-fibrous Bound	100%	Caulk	None Detected

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			Fibrous		Non-Fibrous		
85-284 B2316896.284	Interior Window Caulking	Homogeneous White Non-fibrous Bound			100%	Caulk	None Detected
86-285 B2316896.285	Tar Paper	Homogeneous Black Fibrous Bound	30%	Fiberglass	70%	Tar	None Detected
86-286 B2316896.286	Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
86-287 B2316896.287	Tar Paper	Homogeneous Black Fibrous Bound	30%	Fiberglass	70%	Tar	None Detected
87-288 Layer 1 B2316896.288	Shingle	Heterogeneous Black Fibrous Bound	30%	Fiberglass	60% 10%	Tar Gravel	None Detected
Layer 2 B2316896.288	Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
87-289 Layer 1 B2316896.289	Shingle	Heterogeneous Black Fibrous Bound	30%	Fiberglass	60% 10%	Tar Gravel	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 2 B2316896.289	Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
87-290 Layer 1 B2316896.290	Shingle	Heterogeneous Black Fibrous Bound	30%	Fiberglass	60%	Tar 10% Gravel	None Detected
Layer 2 B2316896.290	Tar Paper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
88-291 B2316896.291	Exterior Window Glazing	Homogeneous White Non-fibrous Bound			100%	Caulk	None Detected
88-292 B2316896.292	Exterior Window Glazing	Homogeneous White Non-fibrous Bound			100%	Caulk	None Detected
88-293 B2316896.293	Exterior Window Glazing	Homogeneous White Non-fibrous Bound			100%	Caulk	None Detected
89-294 B2316896.294 A	Fiber Re-enforced Plastic Board	Homogeneous White Fibrous Bound	60%	Fiberglass	40%	Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
B2316896.294 B	Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic			None Detected
89-295 B2316896.295 A	Fiber Re-enforced Plastic Board	Homogeneous White Fibrous Bound	60%	Fiberglass	40%	Binder	None Detected
B2316896.295 B	Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic			None Detected
89-296 B2316896.296 A	Fiber Re-enforced Plastic Board	Homogeneous White Fibrous Bound	60%	Fiberglass	40%	Binder	None Detected
B2316896.296 B	Mastic	Homogeneous Tan Non-fibrous Bound	100%	Mastic			None Detected
90-297 B2316896.297	Sink Undercoat	Homogeneous White Fibrous Bound	10%	Cellulose	90%	Binder	None Detected
90-298 B2316896.298	Sink Undercoat	Homogeneous White Fibrous Bound	10%	Cellulose	90%	Binder	None Detected

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			Fibrous	Cellulose	Non-Fibrous		
90-299 B2316896.299	Sink Undercoat	Homogeneous White Fibrous Bound	10%	Cellulose	90%	Binder	None Detected
91-300 B2316896.300	Tarpaper	Homogeneous Black,Brown Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
Samples B2316896.300-B2316896.348 analyzed by S.Nicolella							
91-301 B2316896.301	Tarpaper	Homogeneous Black,Brown Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
91-302 B2316896.302	Tarpaper	Homogeneous Black,Brown Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
92-303 B2316896.303	Caulking	Homogeneous White,Beige Non-fibrous Bound	<1%	Cellulose	100%	Caulk	None Detected
92-304 B2316896.304	Caulking	Homogeneous White,Beige Non-fibrous Bound	<1%	Cellulose	100%	Caulk	None Detected
92-305 B2316896.305	Caulking	Homogeneous White,Beige Non-fibrous Bound	<1%	Cellulose	100%	Caulk	None Detected

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			Fibrous	Non-Fibrous			
93-306 Layer 1 B2316896.306	Ceramic Tile	Homogeneous Tan, Gray Non-fibrous Tightly Bound	<1%	Cellulose	70%	Silicates	None Detected
					30%	Binder	
Layer 2 B2316896.306	Grout	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35%	Silicates	None Detected
					65%	Binder	
Layer 3 B2316896.306	Mortar	Homogeneous White Non-fibrous Bound	<1%	Cellulose	35%	Silicates	None Detected
					65%	Binder	
93-307 Layer 1 B2316896.307	Ceramic Tile	Homogeneous Tan, Gray Non-fibrous Tightly Bound	<1%	Cellulose	70%	Silicates	None Detected
					30%	Binder	
Layer 2 B2316896.307	Grout	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35%	Silicates	None Detected
					65%	Binder	
Layer 3 B2316896.307	Mortar	Homogeneous White Non-fibrous Bound	<1%	Cellulose	35%	Silicates	None Detected
					65%	Binder	
93-308 Layer 1 B2316896.308	Ceramic Tile	Homogeneous Tan, Gray Non-fibrous Tightly Bound	<1%	Cellulose	70%	Silicates	None Detected
					30%	Binder	

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			Fibrous	Cellulose	Non-Fibrous	Silicates	
Layer 2 B2316896.308	Grout	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected
Layer 3 B2316896.308	Mortar	Homogeneous White Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected
94-309 B2316896.309	Grout	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected
94-310 B2316896.310	Grout	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected
94-311 B2316896.311	Grout	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected
95-312 B2316896.312	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected
95-313 B2316896.313	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	35% 65%	Silicates Binder	None Detected

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			Fibrous		Non-Fibrous		
95-314 B2316896.314	Mortar	Homogeneous	<1%	Cellulose	35%	Silicates	None Detected
		Gray Non-fibrous Bound			65%	Binder	
96-315 B2316896.315	Plaster Skim Coat Layer 1	Heterogeneous	<1%	Cellulose	35%	Calc Carb	None Detected
		Beige, Off-white Non-fibrous Bound			60%	Binder	
Layer 2 B2316896.315	Plaster Base Coat	Heterogeneous	2%	Cellulose	60%	Binder	None Detected
		Gray Non-fibrous Bound	3%	Hair	35%	Silicates	
96-316 B2316896.316	Plaster Skim Coat Layer 1	Heterogeneous	<1%	Cellulose	35%	Calc Carb	None Detected
		Beige, Off-white Non-fibrous Bound			60%	Binder	
Layer 2 B2316896.316	Plaster Base Coat	Heterogeneous	2%	Cellulose	60%	Binder	None Detected
		Gray Non-fibrous Bound	3%	Hair	35%	Silicates	
96-317 B2316896.317	Plaster Skim Coat Layer 1	Heterogeneous	<1%	Cellulose	35%	Calc Carb	None Detected
		Beige, Off-white Non-fibrous Bound			60%	Binder	
Layer 2 B2316896.317	Plaster Base Coat	Heterogeneous	2%	Cellulose	60%	Binder	None Detected
		Gray Non-fibrous Bound	3%	Hair	35%	Silicates	

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			Fibrous	Non-Fibrous			
96-318 Layer 1 B2316896.318	Plaster Skim Coat	Heterogeneous Beige, Off-white Non-fibrous Bound	<1%	Cellulose	35%	Calc Carb	None Detected
					60%	Binder	
					5%	Paint	
96-319 Layer 1 B2316896.319	Plaster Skim Coat	Heterogeneous Beige, Off-white Non-fibrous Bound	<1%	Cellulose	35%	Calc Carb	None Detected
					60%	Binder	
					5%	Paint	
96-320 Layer 1 B2316896.320	Plaster Skim Coat	Heterogeneous Beige, Off-white Non-fibrous Bound	<1%	Cellulose	35%	Calc Carb	None Detected
					60%	Binder	
					5%	Paint	
96-321 Layer 1 B2316896.321	Plaster Skim Coat	Heterogeneous Tan, Off-white Non-fibrous Bound	<1%	Cellulose	35%	Calc Carb	None Detected
					60%	Binder	
					5%	Paint	

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Lab Code: B2316896
Date Received: 08-07-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: 2160 Versailles Road Asbestos Inspection, N1237347

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
Layer 2 B2316896.321	Plaster Base Coat	Heterogeneous Gray Non-fibrous Bound	2% 3%	Cellulose Hair	60% 35%	Binder Silicates	None Detected
97-322 B2316896.322	Ceiling Tile	Heterogeneous Off-white, Gray Fibrous Bound	55% 15% 10%	Cellulose Fiberglass Mineral Wool	5% 15%	Paint Perlite	None Detected
97-323 B2316896.323	Ceiling Tile	Heterogeneous Off-white, Gray Fibrous Bound	55% 15% 10%	Cellulose Fiberglass Mineral Wool	5% 15%	Paint Perlite	None Detected
97-324 B2316896.324	Ceiling Tile	Heterogeneous Off-white, Gray Fibrous Bound	55% 15% 10%	Cellulose Fiberglass Mineral Wool	5% 15%	Paint Perlite	None Detected
98-325 Layer 1 B2316896.325	Flooring	Homogeneous Tan, Gray Non-fibrous Bound	<1%	Cellulose	100%	Vinyl	None Detected
Layer 2 B2316896.325	Paper	Homogeneous Black, Gray Non-fibrous Bound	<1%	Cellulose	100%	Foam	None Detected
98-326 Layer 1 B2316896.326	Flooring	Homogeneous Tan, Gray Non-fibrous Bound	<1%	Cellulose	100%	Vinyl	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %	
			Fibrous	Non-Fibrous			
Layer 2 B2316896.326	Paper	Homogeneous Black,Gray Non-fibrous Bound	<1%	Cellulose	100%	Foam	None Detected
98-327 Layer 1 B2316896.327	Flooring	Homogeneous Tan,Gray Non-fibrous Bound	<1%	Cellulose	100%	Vinyl	None Detected
Layer 2 B2316896.327	Paper	Homogeneous Black,Gray Non-fibrous Bound	<1%	Cellulose	100%	Foam	None Detected
99-328 B2316896.328 A	Linoleum	Homogeneous Off-white,Tan Fibrous Bound	50%	Cellulose	50%	Vinyl	None Detected
B2316896.328 B	Mastic	Homogeneous Yellow Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
99-329 B2316896.329 A	Linoleum	Homogeneous Off-white,Tan Fibrous Bound	50%	Cellulose	50%	Vinyl	None Detected
B2316896.329 B	Mastic	Homogeneous Yellow Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
99-330 B2316896.330 A	Linoleum	Homogeneous Off-white, Tan Fibrous Bound	50%	Cellulose	50%	Vinyl	None Detected
B2316896.330 B	Mastic	Homogeneous Yellow Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
100-331 B2316896.331 A	Linoleum	Heterogeneous Tan, Blue Non-fibrous Bound	<1%	Cellulose	50%	Vinyl Foam	None Detected
B2316896.331 B	Mastic	Heterogeneous Black, Off-white Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
Black and off-white mastic could not be separated							
100-332 B2316896.332 A	Linoleum	Heterogeneous Tan, Blue Non-fibrous Bound	<1%	Cellulose	50%	Vinyl Foam	None Detected
B2316896.332 B	Mastic	Heterogeneous Black, Off-white Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
Black and off-white mastic could not be separated							
100-333 B2316896.333 A	Linoleum	Heterogeneous Tan, Blue Non-fibrous Bound	<1%	Cellulose	50%	Vinyl Foam	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
B2316896.333 B	Mastic	Heterogeneous Black, Off-white Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
Black and off-white mastic could not be separated							
101-334 B2316896.334	Sink Undercoating	Homogeneous Gray Fibrous Bound	35%	Cellulose	65%	Binder	None Detected
101-335 B2316896.335	Sink Undercoating	Homogeneous Gray Fibrous Bound	35%	Cellulose	65%	Binder	None Detected
101-336 B2316896.336	Sink Undercoating	Homogeneous Gray Fibrous Bound	35%	Cellulose	65%	Binder	None Detected
102-337 Layer 1 B2316896.337	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	<1%	Cellulose	30% 70%	Binder Silicates	None Detected
Layer 2 B2316896.337	Grout	Homogeneous White Non-fibrous Bound	<1%	Cellulose	65% 35%	Binder Silicates	None Detected
Layer 3 B2316896.337	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65% 35%	Binder Silicates	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
102-338 Layer 1 B2316896.338	Ceramic Tile	Homogeneous	<1%	Cellulose	30%	Binder	None Detected
		White			70%	Silicates	
		Non-fibrous Tightly Bound					
Layer 2 B2316896.338	Grout	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		White			35%	Silicates	
		Non-fibrous Bound					
Layer 3 B2316896.338	Mortar	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		Gray			35%	Silicates	
		Non-fibrous Bound					
102-339 Layer 1 B2316896.339	Ceramic Tile	Homogeneous	<1%	Cellulose	30%	Binder	None Detected
		White			70%	Silicates	
		Non-fibrous Tightly Bound					
Layer 2 B2316896.339	Grout	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		White			35%	Silicates	
		Non-fibrous Bound					
Layer 3 B2316896.339	Mortar	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		Dark Gray			35%	Silicates	
		Non-fibrous Bound					
Layer 4 B2316896.339	Mortar	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		Light Gray			35%	Silicates	
		Non-fibrous Bound					

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
103-340 Layer 1 B2316896.340 A	Ceramic Tile	Homogeneous	<1%	Cellulose	30%	Binder	None Detected
		White Non-fibrous Tightly Bound			70%	Silicates	
Layer 2 B2316896.340 A	Grout	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		White Non-fibrous Bound			35%	Silicates	
Layer 3 B2316896.340 A	Mortar	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		White, Off-white Non-fibrous Bound			35%	Silicates	
Layer 4 B2316896.340 A	Mortar	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		Gray Non-fibrous Bound			35%	Silicates	
B2316896.340 B	Mastic	Homogeneous	<1%	Cellulose	100%	Mastic	None Detected
103-341 Layer 1 B2316896.341 A	Ceramic Tile	Homogeneous	<1%	Cellulose	30%	Binder	None Detected
		White Non-fibrous Tightly Bound			70%	Silicates	
Layer 2 B2316896.341 A	Grout	Homogeneous	<1%	Cellulose	65%	Binder	None Detected
		White Non-fibrous Bound			35%	Silicates	

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
Layer 3 B2316896.341 A	Mortar	Homogeneous White Non-fibrous Bound	<1%	Cellulose	65%	Binder 35% Silicates	None Detected
Layer 4 B2316896.341 A	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65%	Binder 35% Silicates	None Detected
B2316896.341 B	Mastic	Homogeneous Yellow, Tan Non-fibrous Bound	<1%	Cellulose	100%	Mastic	None Detected
103-342 Layer 1 B2316896.342	Ceramic Tile	Homogeneous White Non-fibrous Tightly Bound	<1%	Cellulose	30%	Binder 70% Silicates	None Detected
Layer 2 B2316896.342	Grout	Homogeneous White Non-fibrous Bound	<1%	Cellulose	65%	Binder 35% Silicates	None Detected
Layer 3 B2316896.342	Mortar	Homogeneous White Non-fibrous Bound	<1%	Cellulose	65%	Binder 35% Silicates	None Detected
Layer 4 B2316896.342	Mortar	Homogeneous Gray Non-fibrous Bound	<1%	Cellulose	65%	Binder 35% Silicates	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
104-343 Layer 1 B2316896.343	Brick	Heterogeneous Red,Black Non-fibrous Tightly Bound	<1%	Cellulose	30%	Binder	None Detected
					65%	Silicates	
				5%	Paint		
Layer 2 B2316896.343	Mortar	Heterogeneous Gray,Black Non-fibrous Bound	<1%	Cellulose	60%	Binder	None Detected
					35%	Silicates	
				5%	Paint		
104-344 Layer 1 B2316896.344	Brick	Heterogeneous Red,Black Non-fibrous Tightly Bound	<1%	Cellulose	30%	Binder	None Detected
					65%	Silicates	
				5%	Paint		
Layer 2 B2316896.344	Mortar	Heterogeneous Gray,Black Non-fibrous Bound	<1%	Cellulose	60%	Binder	None Detected
					35%	Silicates	
				5%	Paint		
104-345 Layer 1 B2316896.345	Brick	Heterogeneous Red,Black Non-fibrous Tightly Bound	<1%	Cellulose	30%	Binder	None Detected
					65%	Silicates	
				5%	Paint		
Layer 2 B2316896.345	Mortar	Heterogeneous Gray,Black Non-fibrous Bound	<1%	Cellulose	60%	Binder	None Detected
					35%	Silicates	
				5%	Paint		
105-346 B2316896.346 A	Vermiculite Insulation	Heterogeneous Tan,Brown Non-fibrous Loosely Bound	2%	Cellulose	98%	Vermiculite	<1% Tremolite
B2316896.346 B	Vermiculite Insulation (400 Point Count)						0.25% Tremolite
	(1 asbestos points / 400 total) x 100						

ASBESTOS BULK ANALYSIS

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Cellulose	Non-Fibrous		
105-347 B2316896.347 A	Vermiculite Insulation	Heterogeneous Tan,Brown Non-fibrous Loosely Bound	2%	Cellulose	98%	Vermiculite	<1% Tremolite
B2316896.347 B	Vermiculite Insulation (400 Point Count)						<0.25% Tremolite
(0 asbestos points / 400 total) x 100 Tremolite detected below limit of quantitation.							
105-348 B2316896.348 A	Vermiculite Insulation	Heterogeneous Tan,Brown Non-fibrous Loosely Bound	2%	Cellulose	98%	Vermiculite	<1% Tremolite
B2316896.348 B	Vermiculite Insulation (400 Point Count)						<0.25% Tremolite
(0 asbestos points / 400 total) x 100 Tremolite detected below limit of quantitation.							
106-349 B2316896.349	Tarpaper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
Samples B2316896.349 - B2316896.385 analyzed by Lewis Winfield							
106-350 B2316896.350	Tarpaper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
106-351 B2316896.351	Tarpaper	Homogeneous Black Fibrous Bound	70%	Cellulose	30%	Tar	None Detected
107-352 B2316896.352	Plaster	Heterogeneous Off-white,White Fibrous Bound	<1%	Cellulose	<1%	Paint Silicates Binder	None Detected

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ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
107-353 B2316896.353	Plaster	Heterogeneous	<1%	Cellulose	<1%	Paint	None Detected
		Off-white,White	<1%	Hair	60%	Silicates	
		Fibrous			40%	Binder	
		Bound					
107-354 B2316896.354	Plaster	Heterogeneous	<1%	Cellulose	<1%	Paint	None Detected
		Off-white,White	<1%	Hair	60%	Silicates	
		Fibrous			40%	Binder	
		Bound					
108-355 Layer 1 B2316896.355	Joint Compound	Heterogeneous			<1%	Paint	None Detected
		Tan,White			60%	Binder	
		Non-fibrous			40%	Calc Carb	
		Bound					
Layer 2 B2316896.355	Drywall	Heterogeneous	15%	Cellulose	85%	Gypsum	None Detected
		Tan,Off-white	<1%	Fiberglass			
		Fibrous					
		Bound					
108-356 Layer 1 B2316896.356	Joint Compound	Heterogeneous			<1%	Paint	None Detected
		Tan,White			60%	Binder	
		Non-fibrous			40%	Calc Carb	
		Bound					
Layer 2 B2316896.356	Drywall/tape	Heterogeneous	20%	Cellulose	80%	Gypsum	None Detected
		Tan,Off-white	<1%	Fiberglass			
		Fibrous					
		Bound					
108-357 Layer 1 B2316896.357 A	Joint Compound	Heterogeneous			<1%	Paint	<1% Chrysotile
		Tan,Off-white			60%	Binder	
		Non-fibrous			40%	Calc Carb	
		Bound					

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Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS			ASBESTOS %
			Fibrous		Non-Fibrous	
Layer 2 B2316896.357 A	Drywall	Heterogeneous Tan, Off-white Fibrous Bound	15% <1%	Cellulose Fiberglass	85% Gypsum	None Detected
Layer 3 B2316896.357 A	Drywall/Joint Compound	Heterogeneous Tan, Off-white Fibrous Bound	15% <1%	Cellulose Fiberglass	75% Gypsum 10% Binder <1% Paint	<1% Chrysotile
<1% chrysotile in joint compound only. Sample <1% chrysotile overall.						
Layer 1 B2316896.357 B	Joint Compound (400 Point Count)					0.50% Chrysotile
(2 asbestos points / 400 total) x 100						
Layer 2 B2316896.357 B	Drywall/Joint Compound (Composite Result from Point Count)					0.05% Chrysotile
Joint compound is 10% of the overall sample						
109-358 B2316896.358	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass		None Detected
109-359 B2316896.359	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass		None Detected
109-360 B2316896.360	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass		None Detected

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			Fibrous	Non-Fibrous	
109-361 B2316896.361	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
109-362 B2316896.362	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
109-363 B2316896.363	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
109-364 B2316896.364	Insulation	Homogeneous White Fibrous Loose	100%	Fiberglass	None Detected
110-365 B2316896.365	Window Caulking	Homogeneous Gray,Brown Non-fibrous Bound	<1%	Fiberglass	100% Caulk None Detected
110-366 B2316896.366	Window Caulking	Homogeneous Gray,Brown Non-fibrous Bound	<1%	Fiberglass	100% Caulk None Detected
110-367 B2316896.367	Window Caulking	Homogeneous Gray,Brown Non-fibrous Bound	<1%	Fiberglass	100% Caulk None Detected

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			Fibrous	Non-Fibrous		
111-368 B2316896.368	Window Caulking	Homogeneous Gray Fibrous Bound	5% <1%	Cellulose Fiberglass	95% Caulk	None Detected
Sample appears to be caulking, no glazing present.						
111-369 B2316896.369	Window Caulking	Homogeneous Gray Fibrous Bound	2% <1%	Cellulose Fiberglass	98% Caulk	None Detected
Sample appears to be caulking, no glazing present.						
111-370 B2316896.370	Window Caulking	Homogeneous Gray Fibrous Bound	2% <1%	Cellulose Fiberglass	98% Caulk	None Detected
Sample appears to be caulking, no glazing present.						
112-371 B2316896.371	Caulking	Homogeneous Clear Non-fibrous Bound			100% Caulk	None Detected
112-372 B2316896.372	Caulking	Homogeneous Clear Non-fibrous Bound			100% Caulk	None Detected
112-373 B2316896.373	Caulking	Homogeneous Clear Non-fibrous Bound			100% Caulk	None Detected
113-374 B2316896.374	Caulking	Heterogeneous Off-white,Red Non-fibrous Bound			100% <1% Caulk Paint	None Detected

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			Fibrous	Non-Fibrous	
113-375 B2316896.375	Caulking	Heterogeneous Off-white,Red Non-fibrous Bound	100% <1%	Caulk Paint	None Detected
113-376 B2316896.376	Caulking	Homogeneous Brown,Red Non-fibrous Bound	100%	Caulk	None Detected
114-377 B2316896.377	Window Caulking	Heterogeneous Off-white,Red Non-fibrous Bound	100% <1%	Caulk Paint	None Detected
114-378 Layer 1 B2316896.378	Window Caulking	Heterogeneous Off-white Fibrous Bound	58% 40% <1%	Binder Calc Carb Paint	2% Chrysotile
Layer 2 B2316896.378	Window Caulking	Heterogeneous Off-white,Red Non-fibrous Bound	98% 2%	Caulk Paint	None Detected
114-379 B2316896.379	Window Caulking	Heterogeneous Off-white,Red Non-fibrous Bound	100% <1%	Caulk Paint	None Detected
115-380 B2316896.380	Window Caulking	Heterogeneous Off-white,White Non-fibrous Bound	100% <1%	Caulk Paint	None Detected

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			Fibrous	Non-Fibrous	
115-381 B2316896.381	Window Caulking	Heterogeneous Off-white, White Non-fibrous Bound	100% <1%	Caulk Paint	None Detected
115-382 B2316896.382	Window Caulking	Heterogeneous Off-white, White Non-fibrous Bound	100% <1%	Caulk Paint	None Detected
116-383 B2316896.383	Window Glazing	Heterogeneous Off-white, White Non-fibrous Bound	58% 40% 2%	Binder Calc Carb Paint	None Detected
116-384 B2316896.384	Window Glazing	Heterogeneous Off-white, White Non-fibrous Bound	58% 40% 2%	Binder Calc Carb Paint	None Detected
116-385 B2316896.385	Window Glazing	Heterogeneous Off-white, White Non-fibrous Bound	58% 40% 2%	Binder Calc Carb Paint	None Detected

LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
 Non-Trem = Non-Asbestiform Tremolite
 Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*


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Information provided by customer includes customer sample ID and sample description.

ANALYST: _____


Greg Ruff

APPROVED BY: _____


Tianbao Bai, Ph.D., CIH
Laboratory Director



CHAIN OF CUSTODY

366

CEI

730 SE Maynard Road, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:

CEI Lab Code: **B2316896**

CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact: Josh Vogel
Company: Terracon Consultants	Email / Tel: Joshua.Vogel@Terracon.com
Address: 611 Lunkenpark Dr. Cincinnati, OH	Project Name: 2160 Versailles Road Asbestos Inspection
Email: Joshua.Vogel@Terracon.com	Project ID#: N1237347
Tel: (513) 612-9002 Fax:	PO #:
	STATE SAMPLES COLLECTED IN: KY

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM BULK	CARB 435	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR (PCME)	ISO 10312	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ASTM 6281-15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05 (2010)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09 (2014)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	IN-HOUSE METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS / SPECIAL INSTRUCTIONS:

Accept Samples
 Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
<i>Conley</i>	8/14/2023	STR	8/17/23 9:30

Samples will be disposed of 30 days after analysis

8180.1935.9470

SUSPECT ACM - BULK MATERIAL SAMPLE LOG

Page _____ of _____

Date: 8/3/2023
Inspector: Josh Vogel, Lem Weyer, Andrew Hornak
Project: 2160 Versailles Road Asbestos Inspection
Project # N1237347



**611 Lunken Park Drive
 Cincinnati, Ohio 45226
 (513) 321.5816**

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
01	01	Textured Walls/Ceilings	First Floor Southeast Corner of West Room	Staff Area of House (West Section) on Plaster Walls	
	02		First Floor at Northwest Exit		
	03		Doorway to Pantry		
	04		Middle of Stairwell		
	05		Doorway to Second Floor Bathroom		
	06		North Window of Second Floor Stairwell		
	07		Top of Stairwell to Basement		
02	08	Drywall System: Drywall and Joint Compound	Southwest Corner of Large Kitchen	New Kitchen/Laundry Room, Drywall of West Staff Section	
	09		Northwest Corner of Laundry Room		
	10		Northwest Corner of Smaller Kitchen		
03	11	Gray Sink Undercoat	Smaller Kitchen Sink	Kitchen Sinks, Laundry Room Sink of West Staff Section	
	12		Large Kitchen Sink		
	13		Laundry Room Sink		
04	14	Textured Walls	Southeast Corner	Laundry Room in West Staff Section	
	15		Middle South Wall		

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	16		Middle East Wall		
05	17	3"x3" White Ceramic Wall Tile with Gray Grout and Gray Mortar	Smaller Kitchen Northeast Corner Entry	Kitchens in West Staff Section	
	18		Large Kitchen Northeast Corner Entry		
	19		Large Kitchen Southwest Corner Entry		
06	20	White Interior Door Caulking	North Side of Door	Associated with Northwest Exit Door in West Staff Section	
	21		North Side of Door		
	22		North Side of Door		
07	23	White Interior Window Caulking	Northwest Corner Room North Window	Associated with Interior Windows Throughout West Staff Section	
	24		Southwest Room Southwest Window		
	25		Laundry Room Window		
08	26	Gray Plaster Walls/Ceilings	Southeast Corner of Laundry Room	Walls/Ceilings Throughout First Floor of West Staff Section	
	27		East Wall of Kitchen Pantry		
	28		Near West Exit Door		
09	29	White Plaster Walls/Ceilings	Center of First Floor West Dining Room Ceiling	Walls/Ceilings of West Staff Section	
	30		Second Floor West Bedroom Closet		
	31		Second Floor East Side of Staircase Below Window		
	32	NOT USED			
10	33	Old Drywall System: Drywall and Joint Compound	Doorway of Second Floor Bathroom	Old Drywall Throughout Second Floor and Stairwell	

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	34		West Bedroom Closet	of West Staff Section	
	35		East Bedroom Closet		
11	36	Tan Tar Paper	Southwest Corner of Large Kitchen	Beneath Wood Floors in West Staff Section	
	37		Southwest Corner of Southwest Room		
	38		Northwest Corner of Northwest Room		
12	39	2"x2" White Ceramic Floor Tile with Gray Mortar and Dark Gray Grout (Two Layers)	Near Shower in Restroom	Second Floor Restroom in West Staff Section	
	40		Near Shower in Restroom		
	41		Near Shower in Restroom		
13	42	White Exterior Window Glazing	Southwest Large Kitchen Window	Associated with Exterior Windows of West Staff Section	
	43		Southwest Room West Window		
	44		West Bedroom North Window		
14	45	24"x24" Black with White Marks Marble Flooring	North Vent	Corridor Between Central and East Sections of House	
	46		North Vent		
	47		South Vent		
15	48	Textured Walls	Center of West Wall	Corridor Between Central and East Sections of House	
	49		Northeast Corner		
	50		Northwest Corner		
16	51	Plaster Walls/Ceilings	First Floor Dining Room Middle East Wall	Throughout Central Areas of House	

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	52		First Floor Dining Room Middle South Wall		
	53		Second Floor Closet in Southwest Bedroom		
	54		Second Floor Closet in Northeast Corner Bedroom		
	55		Third Floor Closet in Northwest Corner Bedroom		
	56		Third Floor Closet in Northwest Corner Bedroom		
	57		First Floor Northeast Corner of Formal Living Room		
17	58	White Interior Window Caulking	East Side of North Wall Central Window	Associated with Windows in Corridor Between Central and East Areas of House	
	59		East Side of South Wall Central Window		
	60		West Side of South Wall Central Window		
18	61	White Interior Window Caulking	First Floor Dining Room North Side of West Window	Associated with Windows Throughout Central Areas of House	
	62		Second Floor Northwest Corner Bedroom North Side of West Window		
	63		Third Floor Northwest Corner Bedroom East Side of North Window		
20	67	Brick and Mortar	Top of Fireplace in Second Floor Northeast Room	Fireplaces Throughout Central Areas of House	
	68		Top of Fireplace in Second Floor Southeast Room		
	69		Top of Fireplace in First Floor Den		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
21	70	12"x12" Peach Marble Pattern Ceramic Floor Tile with Gray Mortar and Gray Grout	At Southeast Vent	First Floor Southwest Room in Central Area of House	
	71		At Southeast Vent		
	72		At Southeast Vent		
22	73	12"x12" Tan Ceramic Floor Tile with Gray Mortar and Gray Grout	Northeast Corner of First Floor Restroom	Central Areas of House: First Floor Restroom, Second Floor Northwest Bedroom Restroom, West Restroom	
	74		Northwest Bedroom Restroom Closet		
	75		Northwest Bedroom Restroom Closet		
23	76	4" Gray Cove Base with Yellow Mastic	At Entry East Side of Door	Vault Room in Basement of Central Area of House	
	77		Middle East Wall		
	78		Middle West Wall		
24	79	White Wall Stabilizer	Northeast Corner of Northeast Room	Throughout Basement Stone Walls in Central Area of House	
	80		Northeast Corner of Northwest Room		
	81		Northeast Corner of Southwest Room		
	82		Southwest Corner of Southwest Room		
	83		Northeast Corner of Southeast Room		
	84		Northeast Corner of East Room		
	85		Southeast Corner of East Room		
25	86	12"x12" White with Gray Streaks Ceramic Floor Tile with Mortar and White Grout	Northwest Corner	Second Floor Bathroom of Northeast Bedroom in Central Area of House	
	87		Northwest Corner		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	88		Northwest Corner		
26	89	12"x12" White with Gray Streaks Ceramic Wall Tile with Mortar and White Grout	Northwest Corner	Second Floor Bathroom Shower of Northeast Bedroom in Central Area of House	
	90		Northwest Corner		
	91		Northwest Corner		
27	92	White Interior Door Caulking	Doorway to Dining Room	Associated with Interior Doors Throughout Central Area of House	
	93		Doorway to Second Floor Northeast Bedroom		
	94		Doorway to Third Floor East Bedroom		
28	95	12"x12" Tan Ceramic Wall Tile with Brown Grout and Gray Mortar	Doorway of Northwest Bedroom Shower	Shower of Second Floor Middle West and Northwest Bedroom in Central Area of House	
	96		Doorway of Northwest Bedroom Shower		
	97		Doorway of Northwest Bedroom Shower		
29	98	1"x1" Tan Ceramic Floor Tile with White Grout and Mortar	Doorway of Northwest Bedroom Shower	Shower of Second Floor Middle West and Northwest Bedroom in Central Area of House	
	99		Doorway of Northwest Bedroom Shower		
	100		Doorway of Middle West Bedroom Shower		
30	101	12"x12" Cream Color with Tan Streak Ceramic Floor Tile with White Grout and Mortar	West of Tub	Master Bathroom in Central Area of House	
	102		West of Tub		
	103		West of Tub		
31	104	12"x12" Cream Color with Tan Streak Ceramic Wall Tile with White Grout and Mortar	South Side of East Shower	Master Bathroom Shower Walls in Central Area of House	
	105		South Side of East Shower		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	106		South Side of East Shower		
32	107	1"x1" Tan Ceramic Floor Tile with Gray Grout and Mortar	Northeast Corner of Shower	Master Bathroom Shower in Central Area of House	
	108		Northeast Corner of Shower		
	109		Northeast Corner of Shower		
33	110	White 9"x9" Pattern Linoleum Flooring with Yellow Mastic	Northeast Corner	Third Floor Southeast Storage Room in Central Area of House	
	111		Northeast Corner		
	112		Northwest Corner		
34	113	2"x2" White Ceramic Floor Tile with Gray Grout and Mortar	Middle West Side	Third Floor Bathroom in Central Area of House	
	114		Middle West Side		
	115		Middle West Side		
35	116	4"x4" White Ceramic Wall Tile with Gray Grout and Mortar	Southwest Corner	Third Floor Bathroom Shower in Central Area of House	
	117		Southwest Corner		
	118		Southwest Corner		
36	119	White Hexagon Shaped Ceramic Floor Tile with Gray Grout and Mortar	Northwest Corner	Third Floor Bathroom Shower in Central Area of House	
	120		Northwest Corner		
	121		Northwest Corner		
37	122	12"x12" White with Blue and Red Spec Floor Tile with Yellow Mastic	Southeast Corner	Third Floor Mechanical Room in Central Area of House	
	123		Southwest Corner		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	124		Near North Entry Door		
38	125	Brown Blown-In Insulation	Southwest Bedroom Attic	Attic of Central House Area	
	126		Southwest Bedroom Attic		
	127		South End of Master Bedroom Attic		
	128		North End of Master Bedroom Attic		
	129		Third Floor HVAC Room North End		
	130		Third Floor HVAC Room North End		
	131		Third Floor HVAC Room North End		
39	132	Drywall System: Drywall and Joint Compound	Top of Basement Stairwell	Throughout Central House Areas	
	133		Northwest Corner of Third Floor HVAC Room		
	134		Northeast Corner of Third Floor Southwest Bedroom		
	135		Second Floor Closet on East Side of Stairwell		
	136		Second Floor Northeast Corner Bedroom Closet East Side		
	137		First Floor Southeast Corner of Closet Next to Bathroom		
	138		Second Floor Southwest Corner of Southeast Room		
40	139	White Duct Tape	North Vent of East Corridor	Associated with Vents Throughout Central Area of House	
	140		North Vent of East Corridor		
	141		North Vent of East Corridor		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
41	142	White Blown-In Insulation	Pipe Chase of Third Floor HVAC Room	Assumed in All Exterior Walls	
	143		Pipe Chase of Third Floor HVAC Room		
	144		Pipe Chase of Third Floor HVAC Room		
	145		Pipe Chase of Third Floor HVAC Room		
	146		Pipe Chase of Third Floor HVAC Room		
	147		Pipe Chase of Third Floor HVAC Room		
	148		Pipe Chase of Third Floor HVAC Room		
42	149	4"x4" White Square Pattern Vinyl Sheet Flooring with Yellow Mastic	Southeast Corner	Third Floor Southwest Room in Central Area of House	
	150		Southeast Corner		
	151		Northwest Corner		
43	152	Black Tar Paper	Third Floor HVAC Pipe Chase	Assumed Behind Brick of Exterior Walls	
	153		Third Floor HVAC Pipe Chase		
	154		Third Floor HVAC Pipe Chase		
44	155	Exterior White Window Glazing	Third Floor Southwest Room	Associated with Exterior Windows on North End of Central Area of House	
	156		North Window of Den		
	157		Second Floor Northeast Bedroom		
45	158	Asphalt Shingles with Tar Paper	West Side of Roof	Main Roof of Central Area of House	
	159		West Side of Roof		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	160		West Side of Roof		
46	161	Gray Duct Mastic	Southwest Vent of Formal Living Room	Southwest Corner Vent of Formal Living Room in Central Area of House	
	162		Southwest Vent of Formal Living Room		
	163		Southwest Vent of Formal Living Room		
47	164	Tan Tar Paper	North End of Formal Dining Room	Under Wood Floorboards in Central Area of House	
	165		North End of Formal Dining Room		
	166		North End of Formal Dining Room		
48	167	Gray Tar Paper	Northwest Corner	Under Wood Floorboards in Dining Room of Central Area of House	
	168		Northwest Corner		
	169		Northwest Corner		
49	170	Black Flexible Duct Connector	Basement Mechanical Room	Throughout Central Area of House	
	171		Basement Mechanical Room		
	172		Basement Mechanical Room		
50	173	12"x12" White Marble Floor Tile with White Grout and Gray Mortar	Northwest Corner Vent in Lobby	First Floor North and Central Hallways of East House Area	
	174		Northeast Corner Vent in Lobby		
	175		Southwest Corner Vent in Lobby		
51	176	Drywall System: Drywall and Joint Compound	Northwest Corner of First Floor Closet Near Restroom	Throughout East House Area	
	177		Northwest Corner of Basement Closet in Northwest Area Near Shower North of Shower		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	178		Southeast Corner of Central Hallway Near South Exit of Basement		
	179		Northwest Corner Near Northwest Exit of Basement		
	180		Second Floor Southwest Corner of Snack Bar		
	181		Southwest Corner of Basement Closet South of Shower		
	182		Second Floor Southwest Corner of Ticket Booth Room		
52	183	Brick and Grout	First Floor Ballroom Fireplace	Fireplaces Throughout East House Area	
	184		First Floor Ballroom Fireplace		
	185		First Floor Ballroom Fireplace		
53	186	Yellow Carpet Mastic	Hallway North Closet	Stairwell and Hallway of Basement in East House Area	
	187		Northwest Corner of Hallway		
	188		Southeast Corner of Hallway		
54	189	4" White Cove Base with Tan Mastic	Southeast Corner of Entrance to Gym	Entrance to Gym in Basement of East House Area	
	190		Southeast Corner of Entrance to Gym		
	191		Southeast Corner of Entrance to Gym		
55	192	12"x12" White Ceramic Floor Tile with Gray Grout and Gray Mortar	Southwest Corner	Basement Jacuzzi Room and Basement Bathroom in East House Area	
	193		Southwest Corner		
	194		Southwest Corner		
56	195	12"x12" White Ceramic Wall Tile with Gray Grout and Gray Mortar	Southeast Corner of Tub	Basement Jacuzzi Room and Basement	

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	196		Southeast Corner of Tub	Bathroom in East House Area	
	197		Southeast Corner of Tub		
57	198	Red Curtains	North Side Bottom Corner of Main Stage Curtain	Theater Room in East House Area	
	199		Curtain South of Main Stage Curtain West Side Bottom Corner		
	200		Curtain North of Main Stage Curtain East Side Bottom Corner		
58	201	Tan Duct Mastic	Center of Attic	Associated with Duct Work Throughout East House Area	
	202		Center of Attic		
	203		Near Southeast Corner of Attic		
59	204	Black Tar Roofing	Center of Roof	Under Slate Roof Shingles of East House Area Roof	
	205		Center of Roof		
	206		Center of Roof		
60	207	Black Rubber Flooring	Northwest Corner	Under Carpet in Theater Room	
	208		Northeast Corner		
	209		Southeast Corner		
61	210	White Exterior Window Glazing	Northwest Window of Ballroom	Associated with Exterior Windows of East House Area	
	211		Northwest Window of Ballroom		
	212		Northwest Window of Ballroom		
62	213	White Exterior Door Caulking	West Side of Door	Central House Area Front Door	

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	214		East Side of Door		
	215		East Side of Door		
63	216	White Exterior Window Caulking	Northeast Middle Window	Associated with Windows in Central House Area	
	217		Northwest Window		
	218		Northwest Middle Window		
64	219	White Exterior Window Glazing	North Middle Window	Associated with Windows in Connecting Room Between Central and East House Areas	
	220		North Middle Window		
	221		South Side Middle Window		
65	222	White Exterior Window Caulking	North Middle Window	Associated with Windows in Connecting Room Between Central and East House Areas	
	223		South Side Middle Window		
	224		South Side Middle Window		
66	225	White Exterior Door Caulking	East Side of Door	Associated with Front Door of East House Area	
	226		East Side of Door		
	227		East Side of Door		
67	228	White Exterior Window Caulking	Northwest Window	Associated with Windows of East House Area	
	229		Northeast Window		
	230		Southwest Ballroom Window		
68	231	White Exterior Window Caulking	Northeast Corner Window	Associated with Windows in Central House Area	

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	232		Southeast Corner Window	Addition	
	233		Southeast Corner Window		
69	234	Red Exterior Door Caulking	Northeast Corner Door	Associated with Windows in Central House Area Addition	
	235		Southeast Corner Door		
	236		Southwest Corner Door		
70	237	Red Exterior Window Caulking	West Side	Associated with Bay Window of Dining Room	
	238		West Side		
	239		East Side		
71	240	Red/White Exterior Window Glazing	North End	Associated with Dining Room West Window	
	241		North End		
	242		South End		
72	243	White Exterior Window Caulking	North End	Associated with Dining Room West Window	
	244		North End		
	245		South End		
73	246	Gray Exterior Door Caulking	North End	West Building West Entry Door and Kitchen Door	
	247		South End		
	248		Kitchen Door		
74	249	Brown Exterior Window Caulking	Southwest Corner Window	Associated with Windows in the West House Area	

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	250		Northwest Corner Window		
	251		Southeast Corner Window		
75	252	White Caulking	Near Northwest Master Bedroom Doorway	Seam Between Slate Roof and Brick Exterior Wall	
	253		Near Northwest Master Bedroom Doorway		
	254		Near Northwest Master Bedroom Doorway		
76	255	Black EPDM Roof with Foam, Tar Paper, and Tar	Center of Roof	East Corridor Flat Roof	
	256		Center of Roof		
	257		Center of Roof		
77	258	Asphalt and Tar with Wood Fiber Roof	Center of North Roof	North and Northwest Flat Roofs	
	259		Center of North Roof		
	260		Center of North Roof		
78	261	Slate Shingles with Wood Fiberboard and Tar Paper	Southeast Corner	West House Area Roof	
	262		Southeast Corner		
	263		Southeast Corner		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
84	279	White Interior Door Caulking	West End	Associated with Interior Door of Greenhouse	
	280		East End		
	281		East End		
85	282	White Interior Window Caulking	West Side	Between Window Frame and CMU Block Wall	
	283		West Side		
	284		East Side		
86	285	Tar Paper Beneath Wood Shingles	Northeast Corner	Treehouse Roof	

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	286		Northwest Corner		
	287		Northwest Corner		
87	288	Shingles with Tar Paper	Southwest Corner	Pool Shed	
	289		Northwest Corner		
	290		Northwest Corner		
88	291	White Exterior Window Glazing	South Window	Associated with Pool Shed Windows	
	292		South Window		
	293		South Window		
89	-	Glue Dots Behind Mirror	-	Basement Workout Room	
Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
89	294	Fiber re-enforced plastic board with tan mastic	East Wall of Bathroom	Pool House Walls	
	295		East Wall of Bathroom		
	296		East Wall of Shower		
90	297	White sink undercoat	Under Sink	Pool House Sinks	
	298		Under Sink		
	299		Under Sink		
91	300	Tar paper	On Peak of Roof	Roof of Pool House	
	301		Northwest Corner		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	302		Southwest Corner		
92	303	White caulking	West Side of Fountain	Associated with the seams around fountain and railing of the pool area	
	304		East Side of Fountain		
	305		North Side of Fountain		
93	306	6"x6" Tan Ceramic Wall Tile with Grout and Mortar	North Side of Fountain	Walls of the pool and fountain	
	307		North Side of Fountain		
	308		North Side of Fountain		
94	309	Gray Grout	Southeast Corner of Pool	Associated with 12"x12" White Stone Floor Tile around pool and pool house areas	
	310		Southeast Corner of Pool		
	311		Southeast Corner of Pool		
95	312	Gray Mortar	Southeast Corner of Pool	Associated with 12"x12" White Stone Floor Tile around pool and pool house areas	
	313		Southeast Corner of Pool		
	314		Southeast Corner of Pool		
96	315	Plaster Walls: Base Coat and Skim Coat	Doorway of North Bathroom	Throughout 2 nd floor of guest house	
	316		Northwest Corner of Kitchen		
	317		Closet of Middle West Bedroom		
	318		Closet to Southwest Bedroom		
	319		At Window of Middle South Bedroom		

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Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	320		Southeast Hallway Closet		
	321		South Window of Southeast Bedroom		
97	322	2"x2" White Ceiling Tile with Small Fissures	Near Southwest Corner	1 st Floor of Guest House	
	323		Center of Room		
	324		Northwest Corner		
98	325	Faux wood flooring with black paper (no mastic)	Northeast corner of 1 st floor	1 st and 2 nd floors of guest house	
	326		Southwest corner of 1 st floor		
	327		North wall of north bathroom on 2 nd floor		
99	328	Off-white 6"x6" patterned linoleum flooring with paper backing and yellow mastic	At vent	1 st Floor bathroom of guest house	
	329		At vent		
	330		Northwest Corner		
100	331	Tan with blue dot linoleum flooring with black mastic	Southwest corner	2 nd Floor Kitchen of guest house	
	332		Southeast corner		
	333		Northwest corner		
101	334	Gay sink undercoating	2 nd floor kitchen sink	1 st and 2 nd floor kitchen sinks of guest house	
	335		2 nd floor kitchen sink		
	336		1 st floor kitchen sink		
102	337	4"x4" White ceramic wall tile with white grout and gray mortar	West side of shower	2 nd Floor Shower of guest house	

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	338		West side of shower		
	339		West side of shower		
103	340	2"x2" White Ceramic Floor Tile with White Grout and Gray Mortar	Northwest Corner of Shower	2 nd Floor Shower Flooring of guest house	
	341		Northwest Corner of Shower		
	342		Northwest Corner of Shower		
104	343	Brick and Mortar	South Side of Fireplace	Associated with Fireplace of guest house	
	344		South Side of Fireplace		
	345		South Side of Fireplace		
105	346	Vermiculite Insulation	At Attic Hatch	Attic of guest house	
	347		At Attic Hatch		
	348		At Attic Hatch		
106	349	Tar Paper	Attic Roof at Hatch	Roof of guest house	
	350		Attic Roof at Hatch		
	351		Attic Roof at Hatch		
107	352	Plaster Ceiling	Southeast Corner of Garage	Garage ceiling of guest house	
	353		Northwest Corner of Garage		
	354		Lobby outside of East Building Entrance		
108	355	Drywall system: drywall and joint compound	Southeast corner of 1 st floor	Throughout 1 st Floor of guest house	

321

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
	356		Southwest corner of 1 st floor		
	357		2 nd floor Doorway of middle south room closet		
109	358	White Blown-In Insulation	At Attic Hatch	Attic of guest house	
	359		At Attic Hatch		
	360		At Attic Hatch		
	361		At Attic Hatch		
	362		At Attic Hatch		
	363		At Attic Hatch		
	364		At Attic Hatch		
110	365	Gray exterior window caulking	Southwest window	Associated with exterior windows of maintenance garage door windows	
	366		Northwest window		
	367		Northeast window		
111	368	Gray exterior window glazing	Middle south garage door	Associated with the exterior windows of the maintenance garage building	
	369		Southwest garage door		
	370		Northwest garage door		
112	371	Clear Caulking	At Electrical Outlet	Associated with electrical outlet at southwest corner of maintenance garage building	
	372		At Electrical Outlet		
	373		At Electrical Outlet		

341

Sample #		Sample Material Description	Sample Location	HA Location(s)	Results (% / Type of Asbestos)
HA #	SEQ. #				
113	374	Red Exterior Door Caulking	Northwest exit door	Associated with Exterior Doors and Garage doors of Guest house	
	375		West door to garage		
	376		East door to garage		
114	377	Red Exterior Window Caulking	Northwest window	Associated with exterior windows of guest house	
	378		Northeast window		
	379		Southeast window		
115	380	White Exterior Window Lentic Caulking	Northwest window	Associated with exterior windows of guest house	
	381		Northeast window		
	382		Southeast window		
116	383	White Exterior Window Glazing	1 st floor northwest window	Associated with exterior windows of guest house	
	384		1 st floor northwest window		
	385		1 st floor northeast window		

366

August 14, 2023

Terracon Consultants, Inc.
611 Lunken Park Drive
Cincinnati, OH 45226

CLIENT PROJECT: Fayette County, N1237357
CEI LAB CODE: B2317037

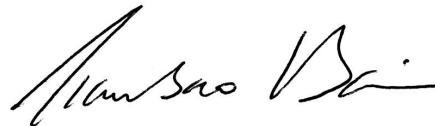
Dear Customer:

Enclosed are asbestos analysis results for PLM Bulk samples received at our laboratory on August 9, 2023. The samples were analyzed for asbestos using polarizing light microscopy (PLM) per the EPA 600 Method.

Sample results containing >1% asbestos are considered asbestos-containing materials (ACMs) per EPA regulatory requirements. The detection limit for the EPA 600 Method is <1% asbestos by weight as determined by visual estimation.

Thank you for your business and we look forward to continuing good relations.

Kind Regards,



Tianbao Bai, Ph.D., CIH
Laboratory Director



CEI

ASBESTOS ANALYTICAL REPORT

By: Polarized Light Microscopy

Prepared for

Terracon Consultants, Inc.

CLIENT PROJECT: Fayette County, N1237357

LAB CODE: B2317037

TEST METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORT DATE: 08/14/23

TOTAL SAMPLES ANALYZED: 18

SAMPLES >1% ASBESTOS:



CEI

Asbestos Report Summary

By: POLARIZING LIGHT MICROSCOPY

PROJECT: Fayette County, N1237357

LAB CODE: B2317037

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

Client ID	Layer	Lab ID	Color	Sample Description	ASBESTOS %
19-64		B2317037.01	Black	Tarpaper	None Detected
19-65		B2317037.02	Black	Tarpaper	None Detected
19-66		B2317037.03	Black	Tarpaper	None Detected
79-264	Layer 1	B2317037.04	White	Joint Compound	None Detected
	Layer 2	B2317037.04	White,Tan	Drywall	None Detected
79-265	Layer 1	B2317037.05	White	Joint Compound	None Detected
	Layer 2	B2317037.05	White,Tan	Drywall	None Detected
79-266	Layer 1	B2317037.06	White	Joint Compound	None Detected
	Layer 2	B2317037.06	White,Tan	Drywall	None Detected
80-267		B2317037.07A	White	Frp Board	None Detected
		B2317037.07B	Tan	Mastic	None Detected
80-268		B2317037.08A	White	Frp Board	None Detected
		B2317037.08B	Tan	Mastic	None Detected
80-269		B2317037.09A	White	Frp Board	None Detected
		B2317037.09B	Tan	Mastic	None Detected
81-270		B2317037.10A	Gray	Covebase	None Detected
		B2317037.10B	Tan	Mastic	None Detected
81-271		B2317037.11A	Gray	Covebase	None Detected
		B2317037.11B	Tan	Mastic	None Detected
81-272		B2317037.12A	Gray	Covebase	None Detected
		B2317037.12B	Tan	Mastic	None Detected
82-273		B2317037.13	White	Window Caulking	None Detected
82-274		B2317037.14	White	Window Caulking	None Detected
82-275		B2317037.15	White	Window Caulking	None Detected
83-276		B2317037.16	White	Door Caulking	None Detected
83-277		B2317037.17	White	Door Caulking	None Detected
83-278		B2317037.18	White	Door Caulking	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2317037
Date Received: 08-09-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: Fayette County, N1237357

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous	Non-Fibrous			
19-64 B2317037.01	Tarpaper	Heterogeneous Black Fibrous Bound	65%	Cellulose	35%	Tar	None Detected
19-65 B2317037.02	Tarpaper	Heterogeneous Black Fibrous Bound	65%	Cellulose	35%	Tar	None Detected
19-66 B2317037.03	Tarpaper	Heterogeneous Black Fibrous Bound	65%	Cellulose	35%	Tar	None Detected
79-264 Layer 1 B2317037.04	Joint Compound	Heterogeneous White Non-fibrous Bound			60%	Binder	None Detected
					35%	Calc Carb	
					5%	Paint	
Layer 2 B2317037.04	Drywall	Heterogeneous White, Tan Fibrous Bound	20%	Cellulose	80%	Gypsum	None Detected
79-265 Layer 1 B2317037.05	Joint Compound	Heterogeneous White Non-fibrous Bound			60%	Binder	None Detected
					35%	Calc Carb	
					5%	Paint	
Layer 2 B2317037.05	Drywall	Heterogeneous White, Tan Fibrous Bound	20%	Cellulose	80%	Gypsum	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2317037
Date Received: 08-09-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: Fayette County, N1237357

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
79-266 Layer 1 B2317037.06	Joint Compound	Heterogeneous	60%	Binder	None Detected		
		White	35%	Calc Carb			
		Non-fibrous	5%	Paint			
		Bound					
80-267 Layer 2 B2317037.06	Drywall	Heterogeneous	20%	Cellulose	80%	Gypsum	None Detected
		White, Tan					
		Fibrous					
		Bound					
80-267 B2317037.07A	Frp Board	Heterogeneous	50%	Fiberglass	50%	Vinyl	None Detected
		White					
		Fibrous					
		Bound					
B2317037.07B	Mastic	Heterogeneous	5%	Fiberglass	95%	Mastic	None Detected
		Tan					
		Fibrous					
		Bound					
80-268 B2317037.08A	Frp Board	Heterogeneous	50%	Fiberglass	50%	Vinyl	None Detected
		White					
		Fibrous					
		Bound					
B2317037.08B	Mastic	Heterogeneous	5%	Fiberglass	95%	Mastic	None Detected
		Tan					
		Fibrous					
		Bound					
80-269 B2317037.09A	Frp Board	Heterogeneous	50%	Fiberglass	50%	Vinyl	None Detected
		White					
		Fibrous					
		Bound					

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2317037
Date Received: 08-09-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: Fayette County, N1237357

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS				ASBESTOS %
			Fibrous		Non-Fibrous		
B2317037.09B	Mastic	Heterogeneous Tan Fibrous Bound	5%	Fiberglass	95%	Mastic	None Detected
81-270 B2317037.10A	Covebase	Heterogeneous Gray Non-fibrous Bound			100%	Vinyl	None Detected
B2317037.10B	Mastic	Heterogeneous Tan Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
81-271 B2317037.11A	Covebase	Heterogeneous Gray Non-fibrous Bound			100%	Vinyl	None Detected
B2317037.11B	Mastic	Heterogeneous Tan Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected
81-272 B2317037.12A	Covebase	Heterogeneous Gray Non-fibrous Bound			100%	Vinyl	None Detected
B2317037.12B	Mastic	Heterogeneous Tan Fibrous Bound	5%	Cellulose	95%	Mastic	None Detected

ASBESTOS BULK ANALYSIS

By: POLARIZING LIGHT MICROSCOPY

Client: Terracon Consultants, Inc.
 611 Lunken Park Drive
 Cincinnati, OH 45226

Lab Code: B2317037
Date Received: 08-09-23
Date Analyzed: 08-14-23
Date Reported: 08-14-23

Project: Fayette County, N1237357

ASBESTOS BULK PLM, EPA 600 METHOD

Client ID Lab ID	Lab Description	Lab Attributes	NON-ASBESTOS COMPONENTS		ASBESTOS %
			Fibrous	Non-Fibrous	
82-273 B2317037.13	Window Caulking	Heterogeneous White Non-fibrous Bound	95% 5%	Caulk Binder	None Detected
82-274 B2317037.14	Window Caulking	Heterogeneous White Non-fibrous Bound	95% 5%	Caulk Binder	None Detected
82-275 B2317037.15	Window Caulking	Heterogeneous White Non-fibrous Bound	95% 5%	Caulk Binder	None Detected
83-276 B2317037.16	Door Caulking	Heterogeneous White Non-fibrous Bound	95% 5%	Caulk Binder	None Detected
83-277 B2317037.17	Door Caulking	Heterogeneous White Non-fibrous Bound	95% 5%	Caulk Binder	None Detected
83-278 B2317037.18	Door Caulking	Heterogeneous White Non-fibrous Bound	95% 5%	Caulk Binder	None Detected

LEGEND: Non-Anth = Non-Asbestiform Anthophyllite
 Non-Trem = Non-Asbestiform Tremolite
 Calc Carb = Calcium Carbonate

METHOD: EPA 600 / R93 / 116 and EPA 600 / M4-82 / 020

REPORTING LIMIT: <1% by visual estimation

REPORTING LIMIT FOR POINT COUNTS: 0.25% by 400 Points or 0.1% by 1,000 Points

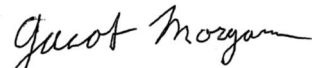
REGULATORY LIMIT: >1% by weight

Due to the limitations of the EPA 600 method, nonfriable organically bound materials (NOBs) such as vinyl floor tiles can be difficult to analyze via polarized light microscopy (PLM). EPA recommends that all NOBs analyzed by PLM, and found not to contain asbestos, be further analyzed by Transmission Electron Microscopy (TEM). Please note that PLM analysis of dust and soil samples for asbestos is not covered under NVLAP accreditation. *Estimated measurement of uncertainty is available on request.*

This report relates only to the samples tested or analyzed and may not be reproduced, except in full, without written approval by Eurofins CEI. Eurofins CEI makes no warranty representation regarding the accuracy of client submitted information in preparing and presenting analytical results. Interpretation of the analytical results is the sole responsibility of the client. Samples were received in acceptable condition unless otherwise noted. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. Government.

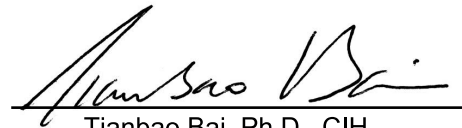
Information provided by customer includes customer sample ID and sample description.

ANALYST:



Jacob Morgan

APPROVED BY:



Tianbao Bai, Ph.D., CIH
Laboratory Director





CHAIN OF CUSTODY

18

CEI

730 SE Maynard Road, Cary, NC 27511
 Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:

CEI Lab Code: **B2317037**

CEI Lab I.D. Range:

COMPANY INFORMATION	PROJECT INFORMATION
CEI CLIENT #:	Job Contact:
Company: Terracon Consultants	Email / Tel:
Address: 611 Lunkenpark Dr.	Project Name: Fayette County
Cincinnati, OH	Project ID#: N1237357
Email: Joshua.Vogel@Terracon.com	PO #: N1237357
Tel: (513) 612-9002 Fax:	STATE SAMPLES COLLECTED IN: KY

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

ASBESTOS	METHOD	TURN AROUND TIME					
		4 HR	8 HR	1 DAY	2 DAY	3 DAY	5 DAY
PLM BULK	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (400)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM POINT COUNT (1000)	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM GRAV w POINT COUNT	EPA 600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PLM BULK	CARB 435	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCM AIR	NIOSH 7400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	EPA AHERA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	NIOSH 7402	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR (PCME)	ISO 10312	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM AIR	ASTM 6281-15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM BULK	CHATFIELD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST WIPE	ASTM D6480-05 (2010)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM DUST MICROVAC	ASTM D5755-09 (2014)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM SOIL	ASTM D7521-16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM VERMICULITE	CINCINNATI METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TEM QUALITATIVE	IN-HOUSE METHOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS / SPECIAL INSTRUCTIONS:

BWB Accept Samples
 Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	09/1/23	BWB	8/19/23 9:40

Samples will be disposed of 30 days after analysis

81801935 9469

19	64	Black Tar Paper	Southwest Vent of Formal Living Room	Under Floorboards in Central Areas of House	
	65		Southwest Vent of Formal Living Room		
	66		Southwest Vent of Formal Living Room		
79	264	Drywall System: Drywall and Joint Compound	Southeast Corner Doorway of Bathroom	Bathroom and Office of Maintenance Garage	
	265		Northwest Corner of Office		
	266		Southwest Corner of Office		
80	267	Fiberglass Reinforced Plastic Board	East Side Near Door	Bathroom and Office of Maintenance Garage	
	268		East Side Near Door		
	269		Middle of West Wall		
81	270	4" Gray Cove Base with Tan Mastic	Northwest Corner of Bathroom	Bathroom and Office of Maintenance Garage	
	271		Northeast Corner of Bathroom		
	272		Doorway of Office		
82	273	White Interior Window Caulking	North Window	Associated with Office Windows of Maintenance Garage	
	274		North Window		
	275		East Window		
83	276		Office Door		

186

	277	White Interior Door Caulking	Office Door	Associated with Interior Office Door in Maintenance Garage	
	278		Office Door		

Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347



APPENDIX D

LICENSES AND CERTIFICATIONS



Andy Beshear
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

300 Sower Boulevard
Frankfort, Kentucky 40601
Phone: (502) 564-2150
Fax: 502-564-4245

Rebecca W. Goodman
SECRETARY

Anthony R. Hatton
COMMISSIONER

May 26, 2023

Lemuel Weyer
611 Lunken Park Dr
Cincinnati, Ohio 45226

Asbestos Management Planner
AI Number: 159668
License Number: 61040
Expires: May 17, 2024

Dear Lemuel Weyer:

This is to acknowledge receipt of your application for accreditation as an asbestos abatement professional. Your application has been approved and the above-referenced card is enclosed.

Initial accreditation fee is \$100.00 per person per discipline, except for abatement worker (\$20.00). Renewal fees for accreditations within one year of the expiration date are one-half of the initial fees. Renewals for accreditations expired over one year require the initial fee. There is a \$10.00 duplication charge to replace a lost card. Please also note that the expiration date on your license is determined by the expiration date on the training certificate submitted with your application.

When submitting application packets, please note the following:

- do not staple any of the application materials;
- make sure to fill out the application completely, including your signature; and
- include current proof of training for the discipline(s) for which you are applying

If you have any questions regarding this matter, please call our office at (502) 782-6717.

Commonwealth of Kentucky
Department for Environmental Protection
Division for Air Quality

Lemuel Weyer
Has met the requirements of 401 KAR 58:005 and is accredited as an:

Asbestos Management Planner

Agency Interest Id: **159668**
License Number: **61040**
Issue Date: **05/23/2023**
Expiration Date: **05/17/2024**



Sincerely,

Emma Moreo
Field Support Section
Field Operations Branch



ANDY BESHEAR
GOVERNOR

REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

December 8, 2022

Joshua Vogel
611 Lunken Park Dr
Cincinnati, Ohio 45226

Asbestos Management Planner
AI Number: 140568
License Number: 63334
Expires: November 16, 2023

Dear Joshua Vogel:

This is to acknowledge receipt of your application for accreditation as an asbestos abatement professional. Your application has been approved and the above-referenced card is enclosed.

Initial accreditation fee is \$100.00 per person per discipline, except for abatement worker (\$20.00). Renewal fees for accreditations within one year of the expiration date are one-half of the initial fees. Renewals for accreditations expired over one year require the initial fee. There is a \$10.00 duplication charge to replace a lost card. Please also note that the expiration date on your license is determined by the expiration date on the training certificate submitted with your application.

When submitting application packets, please note the following:

- do not staple any of the application materials;
- make sure to fill out the application completely, including your signature; and
- include current proof of training for the discipline(s) for which you are applying

If you have any questions regarding this matter, please call our office at (502) 782-6717.

Sincerely,

Emma Moreo
Field Support Section
Field Operations Branch

Commonwealth of Kentucky
Department for Environmental Protection
Division for Air Quality

Joshua Vogel

Has met the requirements of 401 KAR 58:005 and is accredited as an:

Asbestos Management Planner

Agency Interest Id: **140568**
License Number: **63334**
Issue Date: **12/07/2022**
Expiration Date: **11/16/2023**



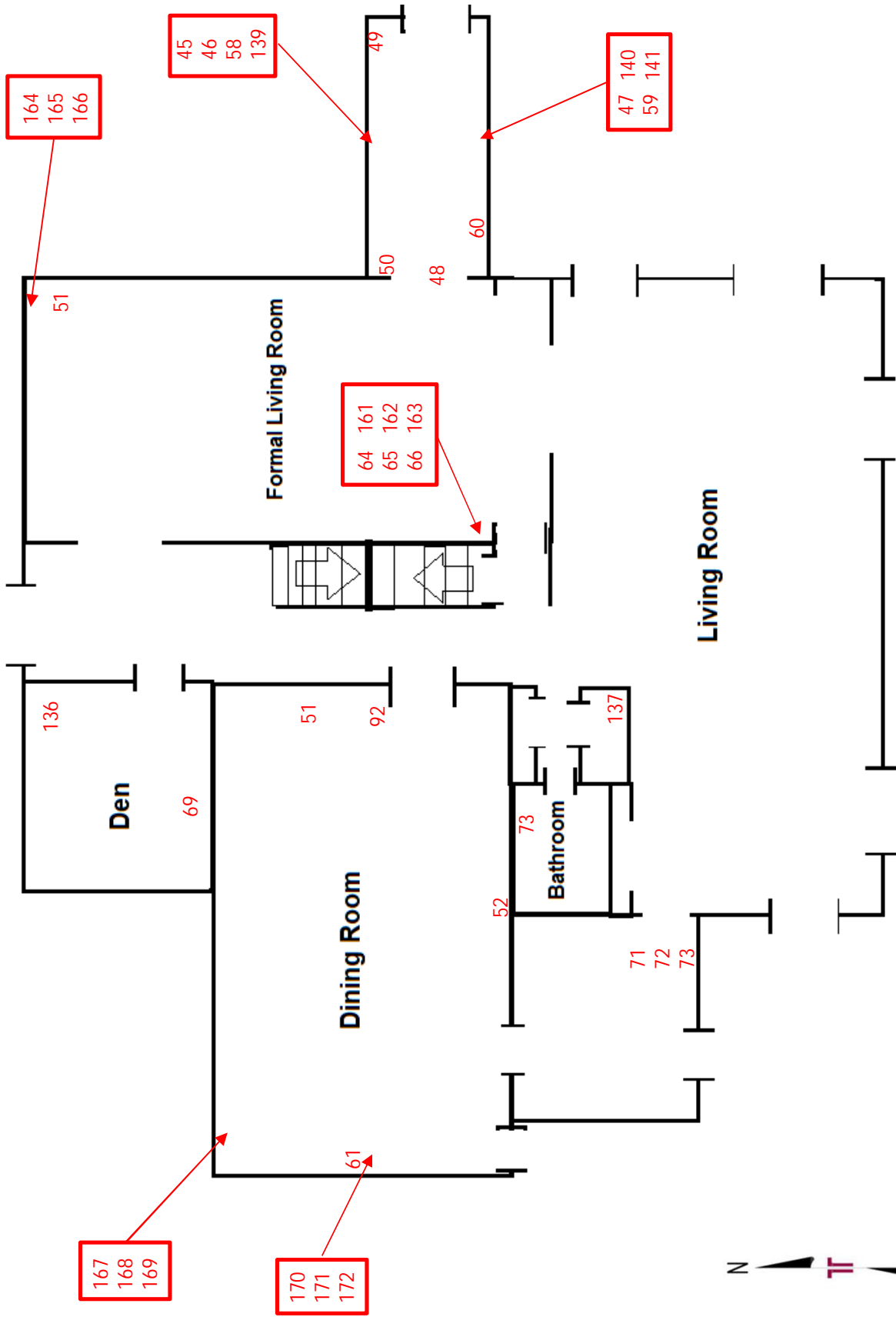
Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347



APPENDIX E

SAMPLE LOCATION DIAGRAMS



Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



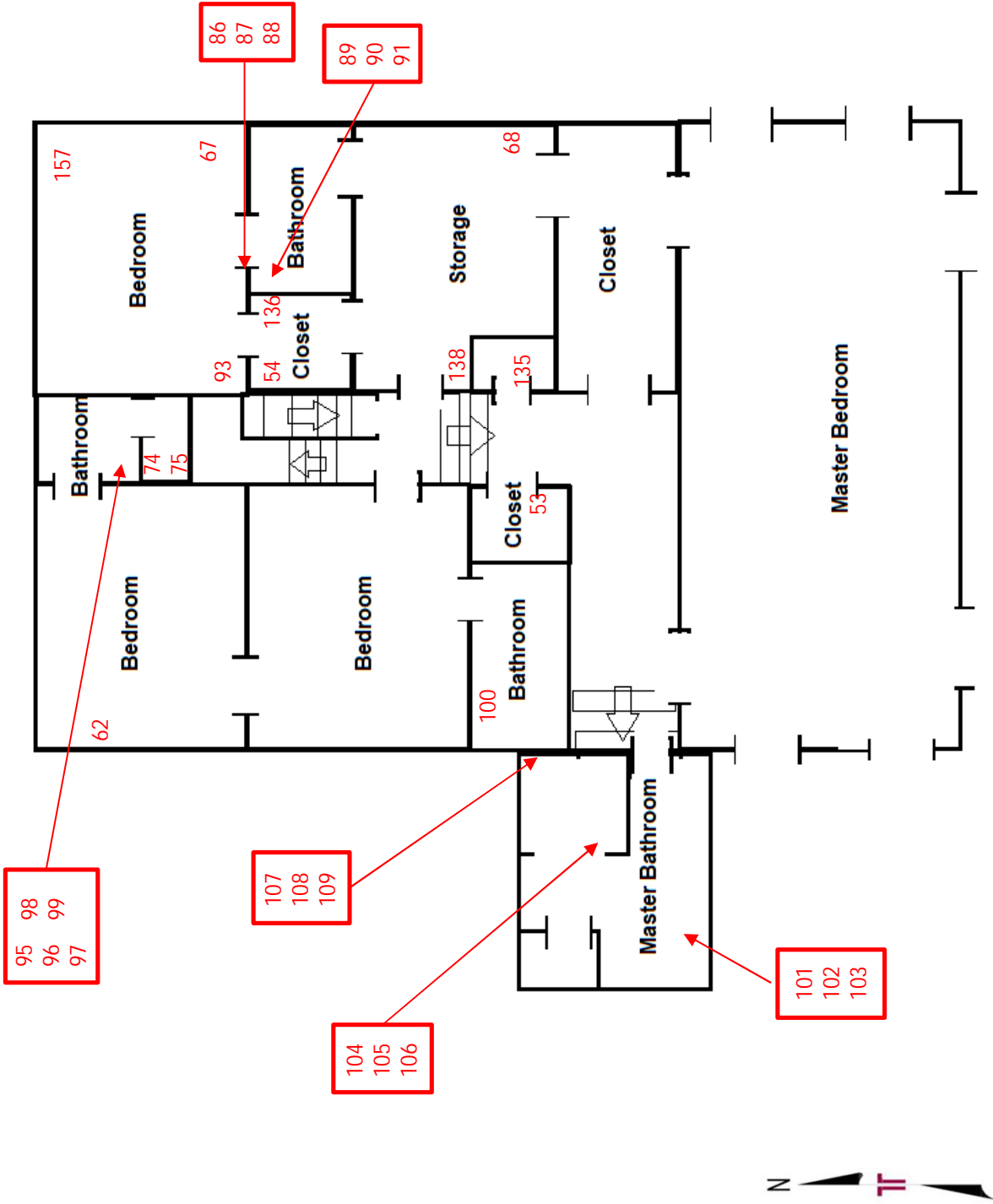
611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294

1st Floor Interior Sample Location Diagram

Main House
2160 Versailles Road
Lexington, KY

Exhibit

1



Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey

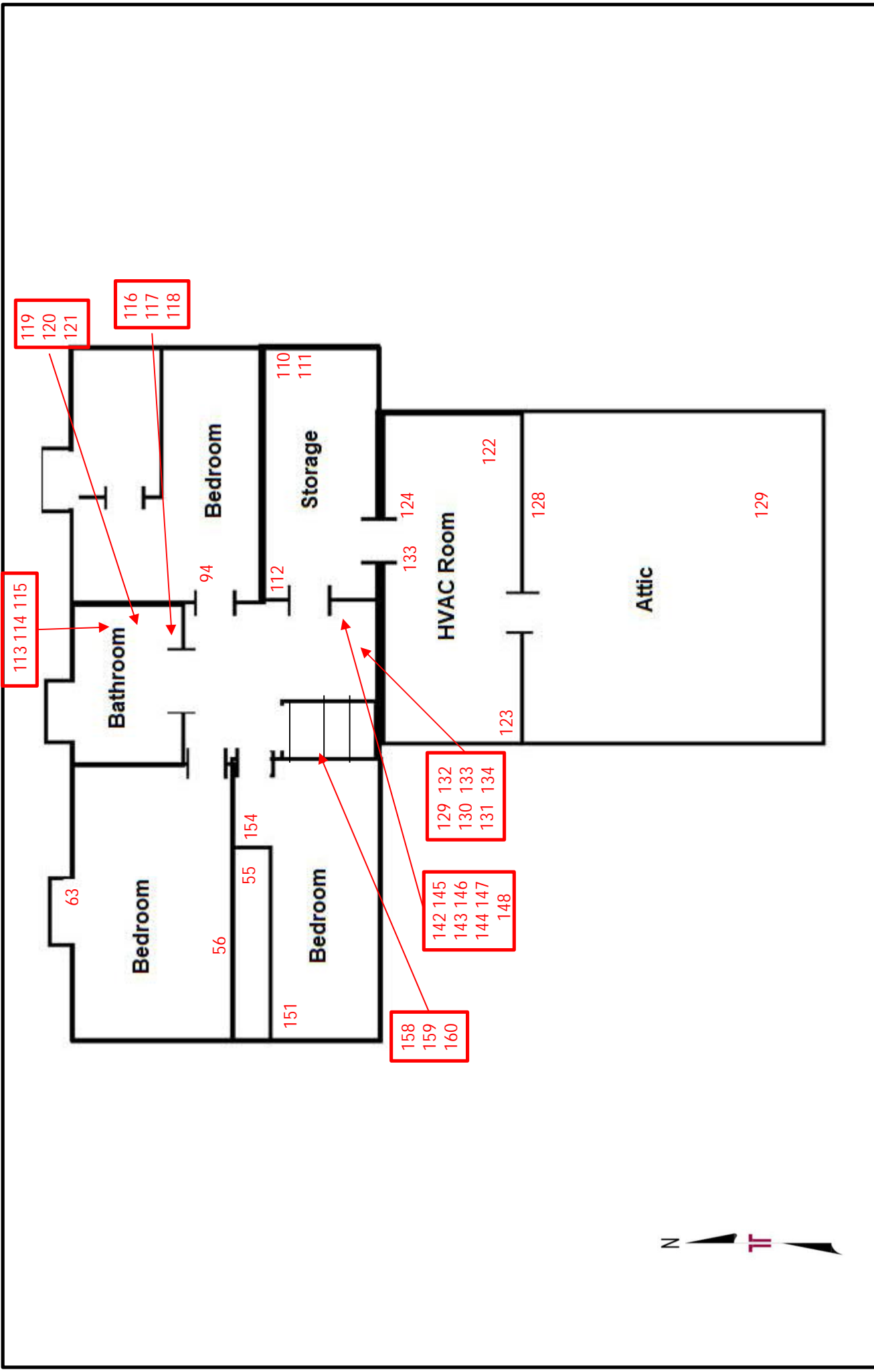
Terracon
 Consulting Engineers and Scientists
 611 Lunken Park Drive
 Cincinnati, Ohio 45226
 PH: (513) 321-05816
 FAX (513) 321-0294

2nd Floor Interior Sample Location Diagram

Main House
 2160 Versailles Road
 Lexington, KY

Exhibit

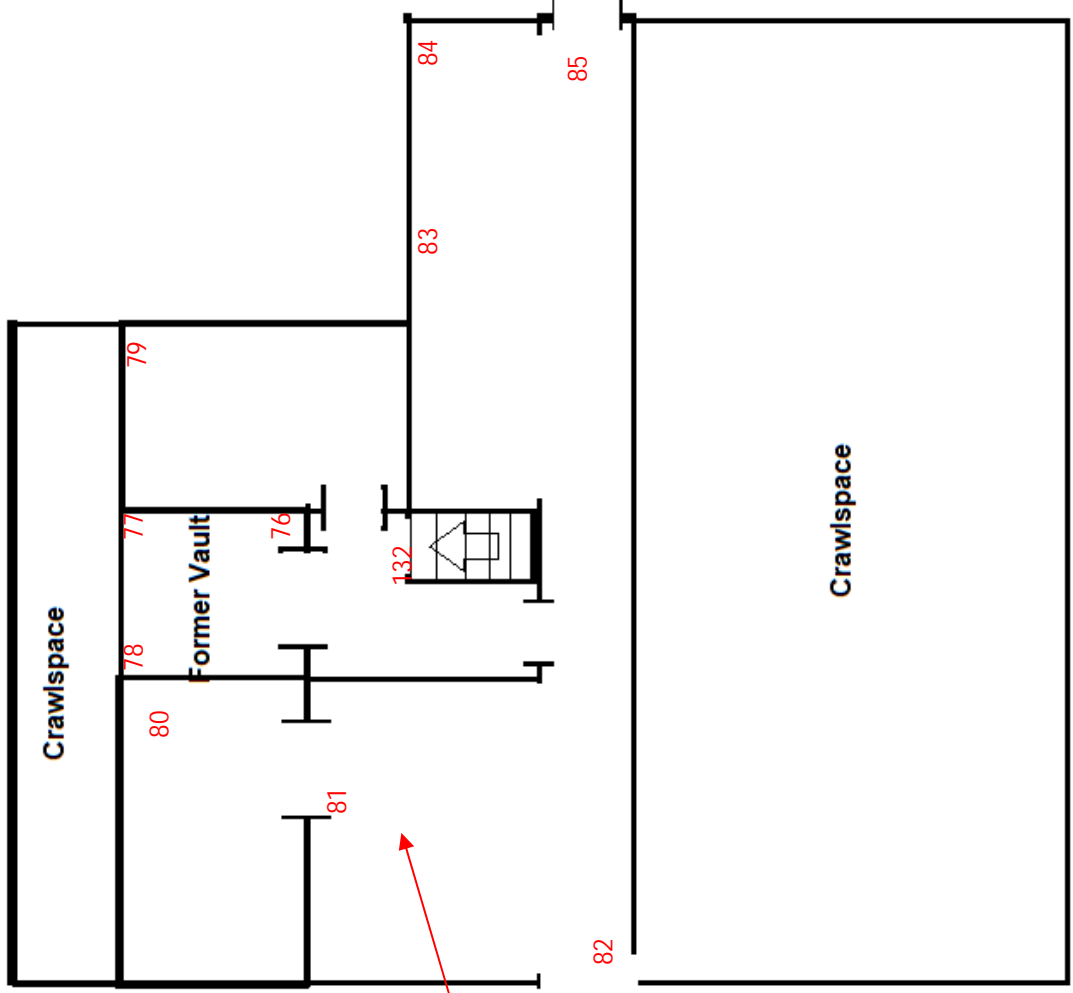
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Project No. N1237347	3 rd Floor Interior Sample Location Diagram	Exhibit
Survey Date: August 2-4, 2023	Main House 2160 Versailles Road Lexington, KY	3
Project Manager: Josh Vogel		
APR: Joe Tussey		

Terracon
Consulting Engineers and Scientists

611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294



Project No. N1237347	Basement Sample Location Diagram	Exhibit
Survey Date: August 2-4, 2023	Main House 2160 Versailles Road Lexington, KY	4
Project Manager: Josh Vogel		
APR: Joe Tussey		



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 Cincinnati, Ohio 45226
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 FAX (513) 321-0294

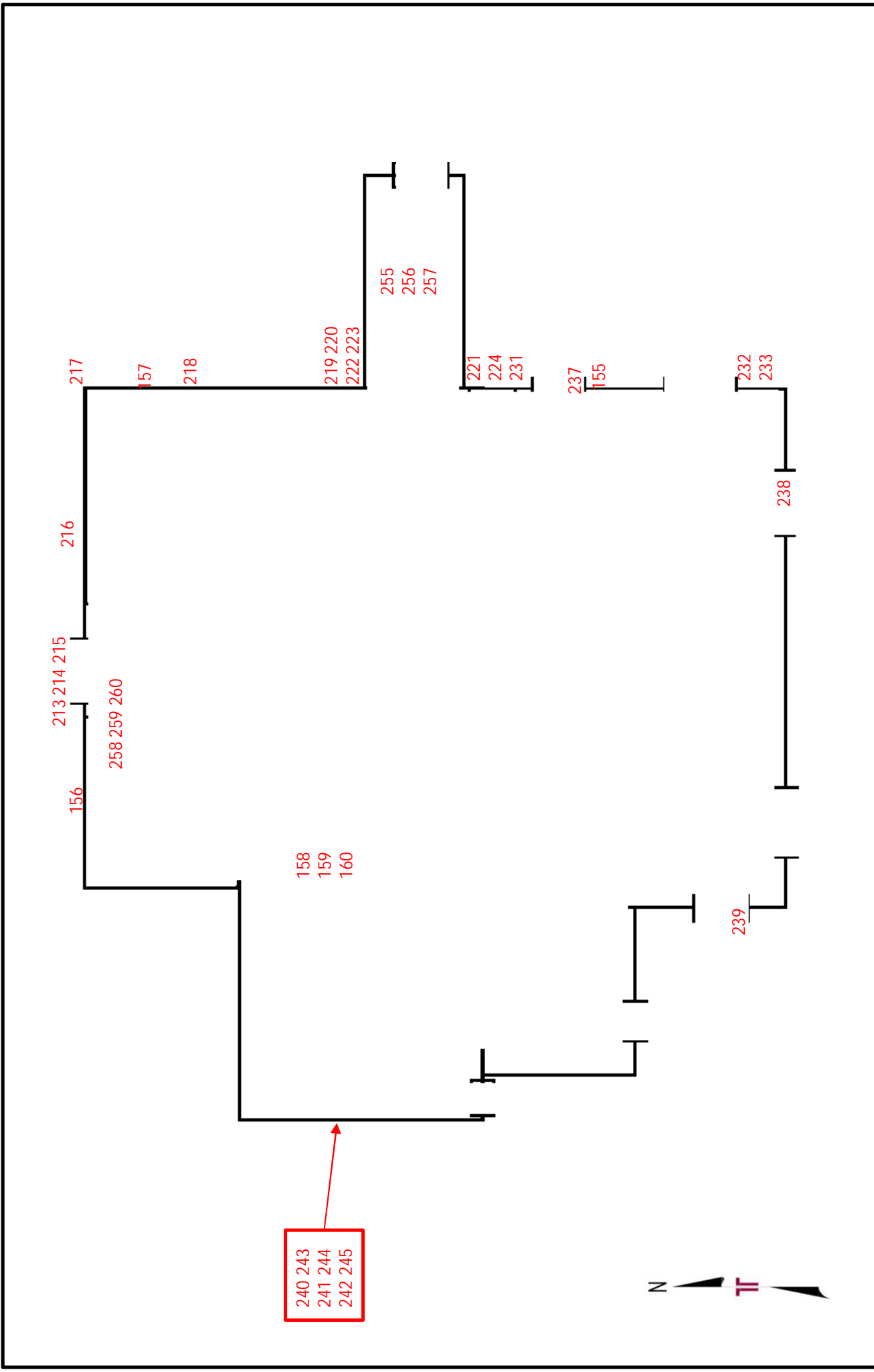


Exhibit	5	
Exterior Sample Location Diagram	Main House 2160 Versailles Road Lexington, KY	
 <p>Consulting Engineers and Scientists</p>	611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294	
Project No. N1237347	Survey Date: August 2-4, 2023 Project Manager: Josh Vogel APR: Joe Tussey	

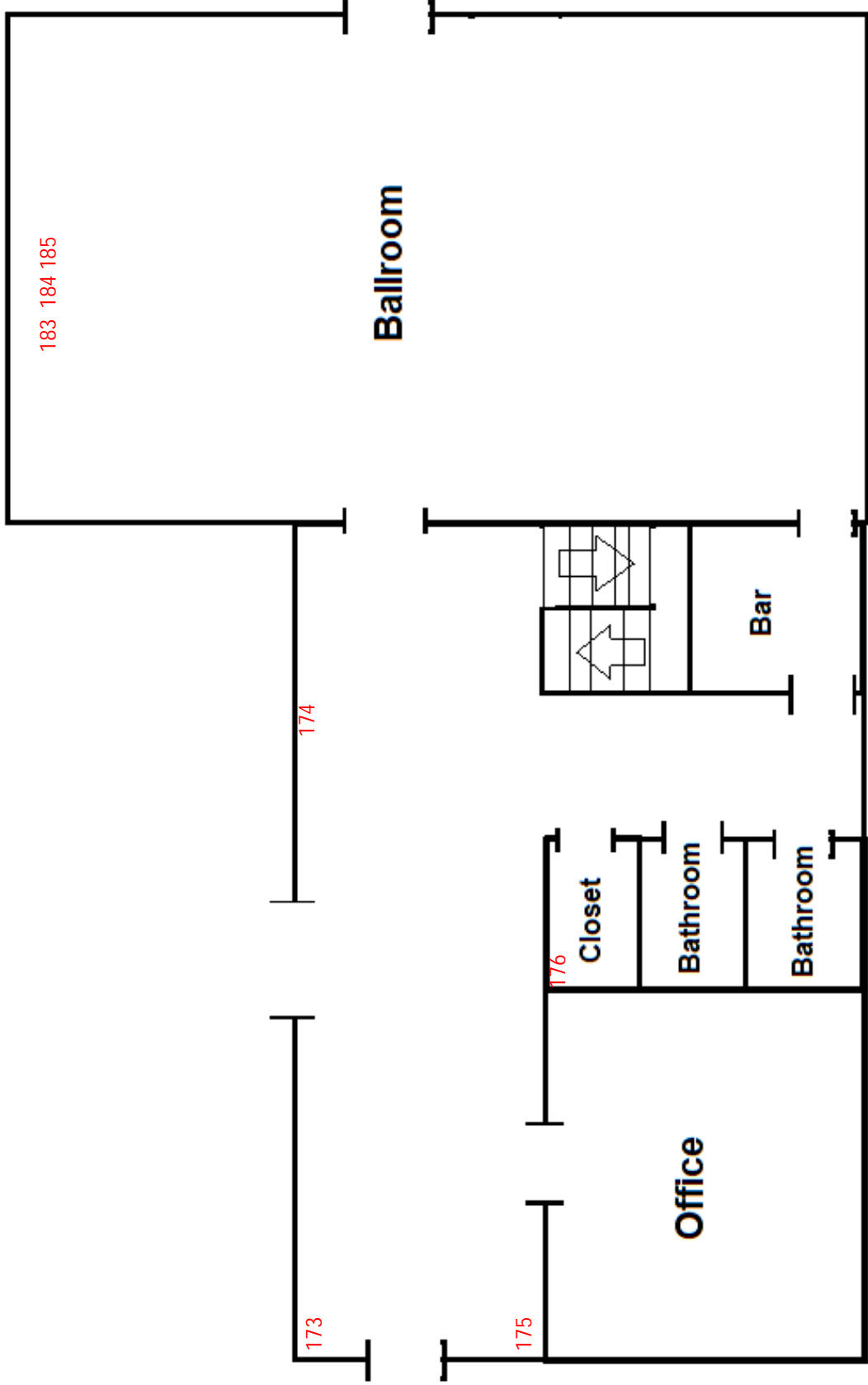


Exhibit
6

1st Floor Sample Location Diagram

East Addition
2160 Versailles Road
Lexington, KY



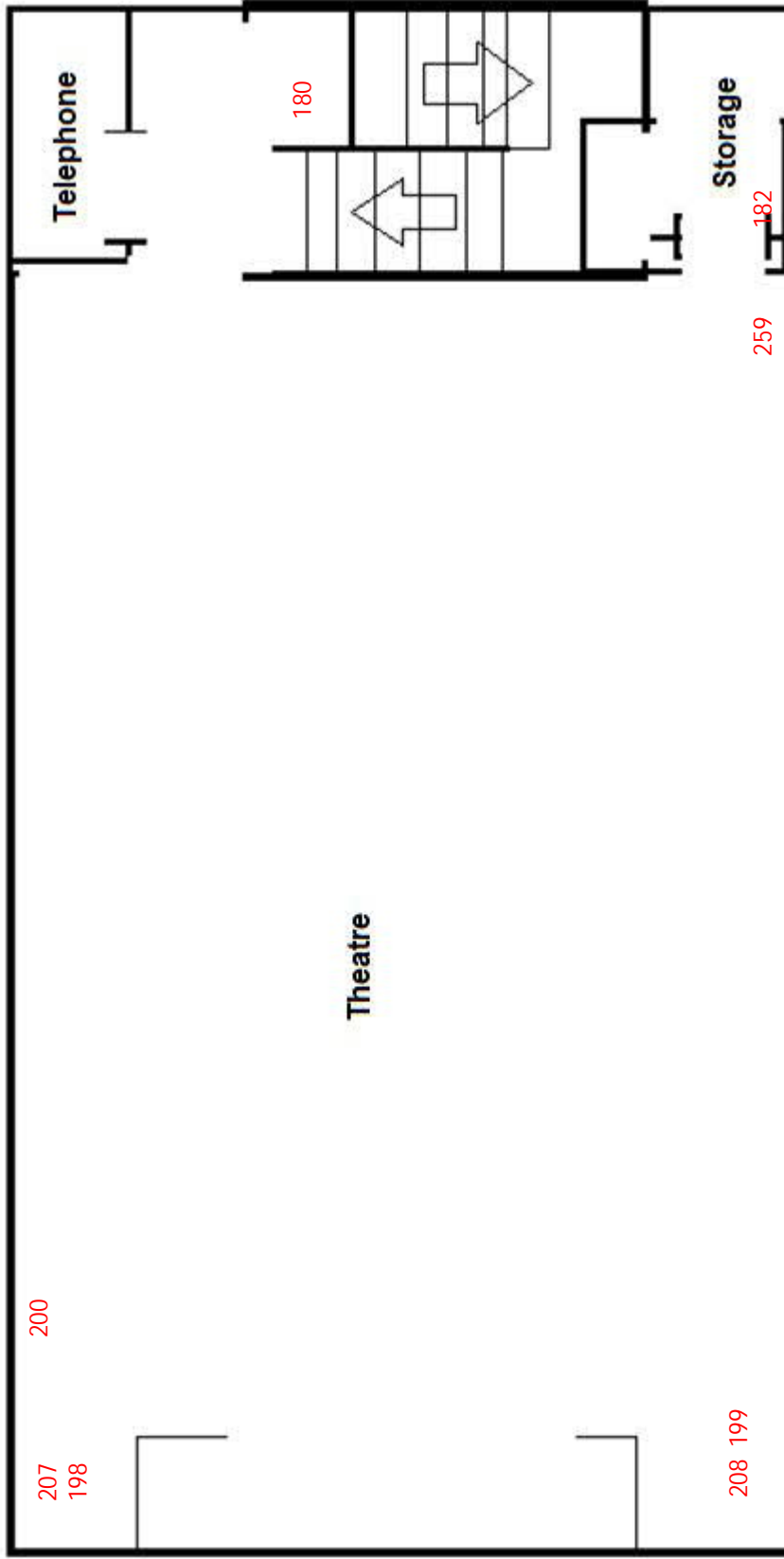
611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294

Project No. N1237347

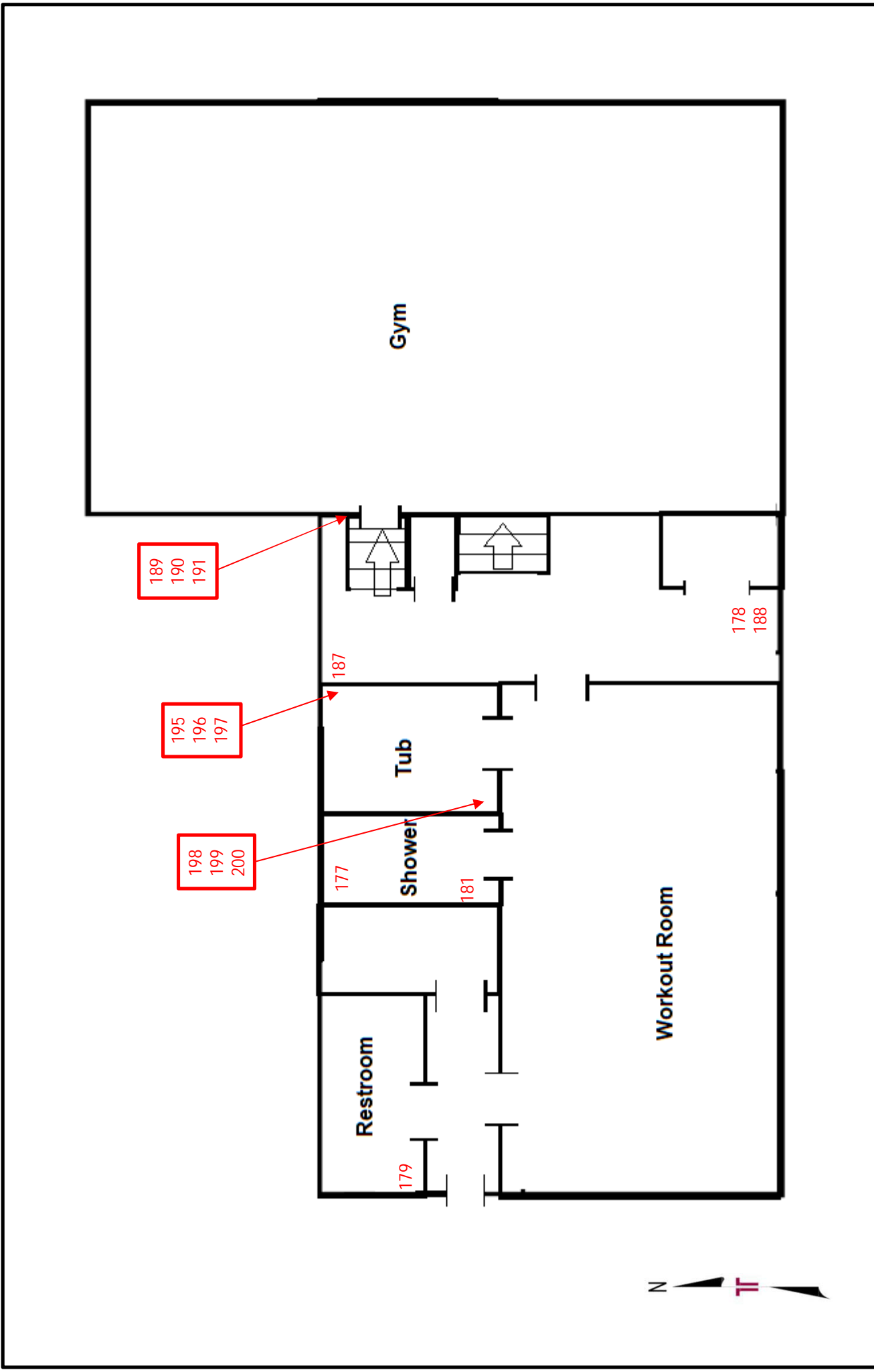
Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

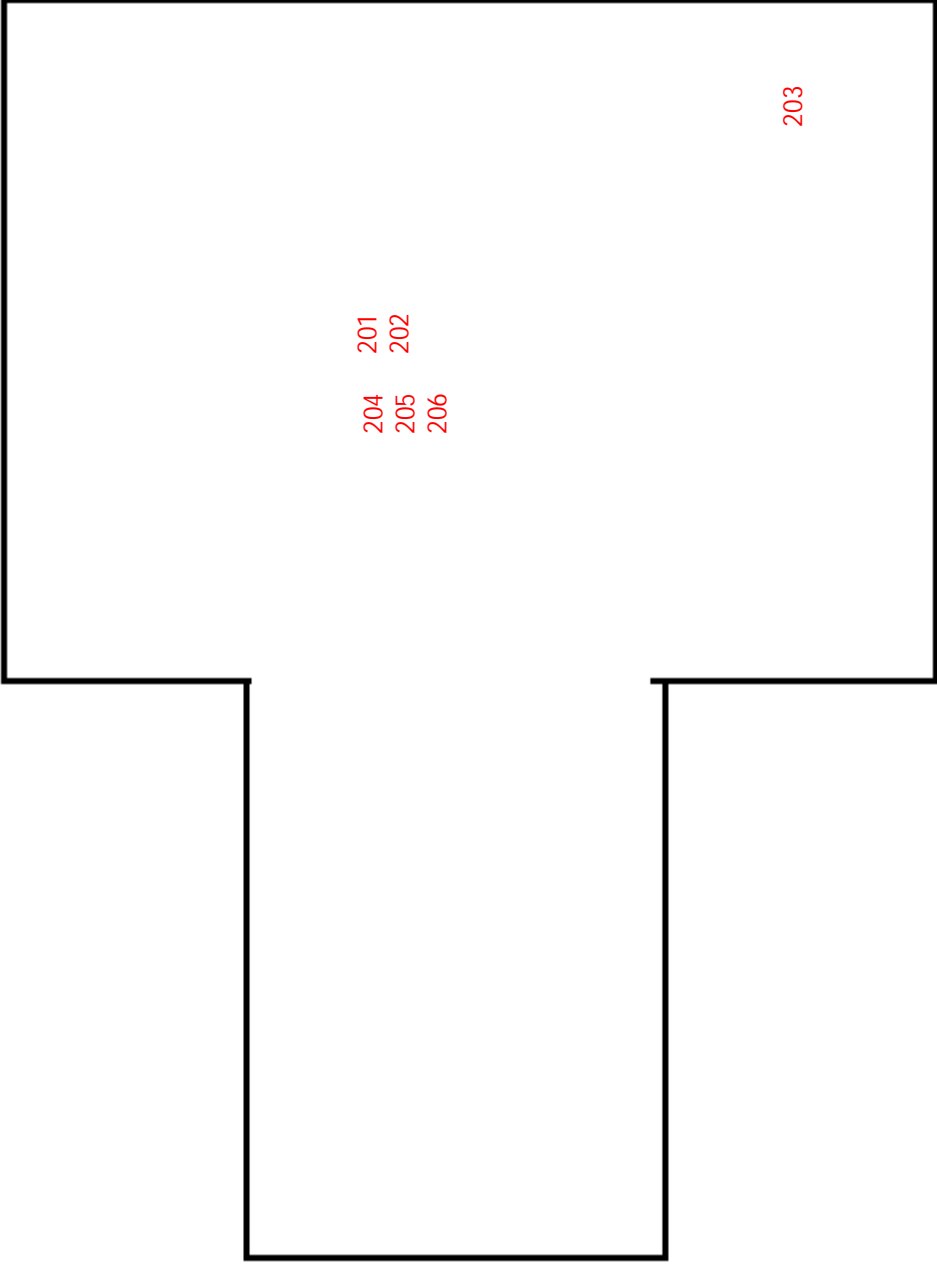
APR: Joe Tussey



Project No. N1237347 Survey Date: August 2-4, 2023 Project Manager: Josh Vogel APR: Joe Tussey		2nd Floor Sample Location Diagram East Addition 2160 Versailles Road Lexington, KY	Exhibit 7
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Project No. N1237347 Survey Date: August 2-4, 2023 Project Manager: Josh Vogel APR: Joe Tussey	Terracon Consulting Engineers and Scientists 611 Lunken Park Drive Cincinnati, Ohio 45226 PH. (513) 321-05816 FAX (513) 321-0294	Basement Sample Location Diagram East Addition 2160 Versailles Road Lexington, KY	Exhibit 8
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Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



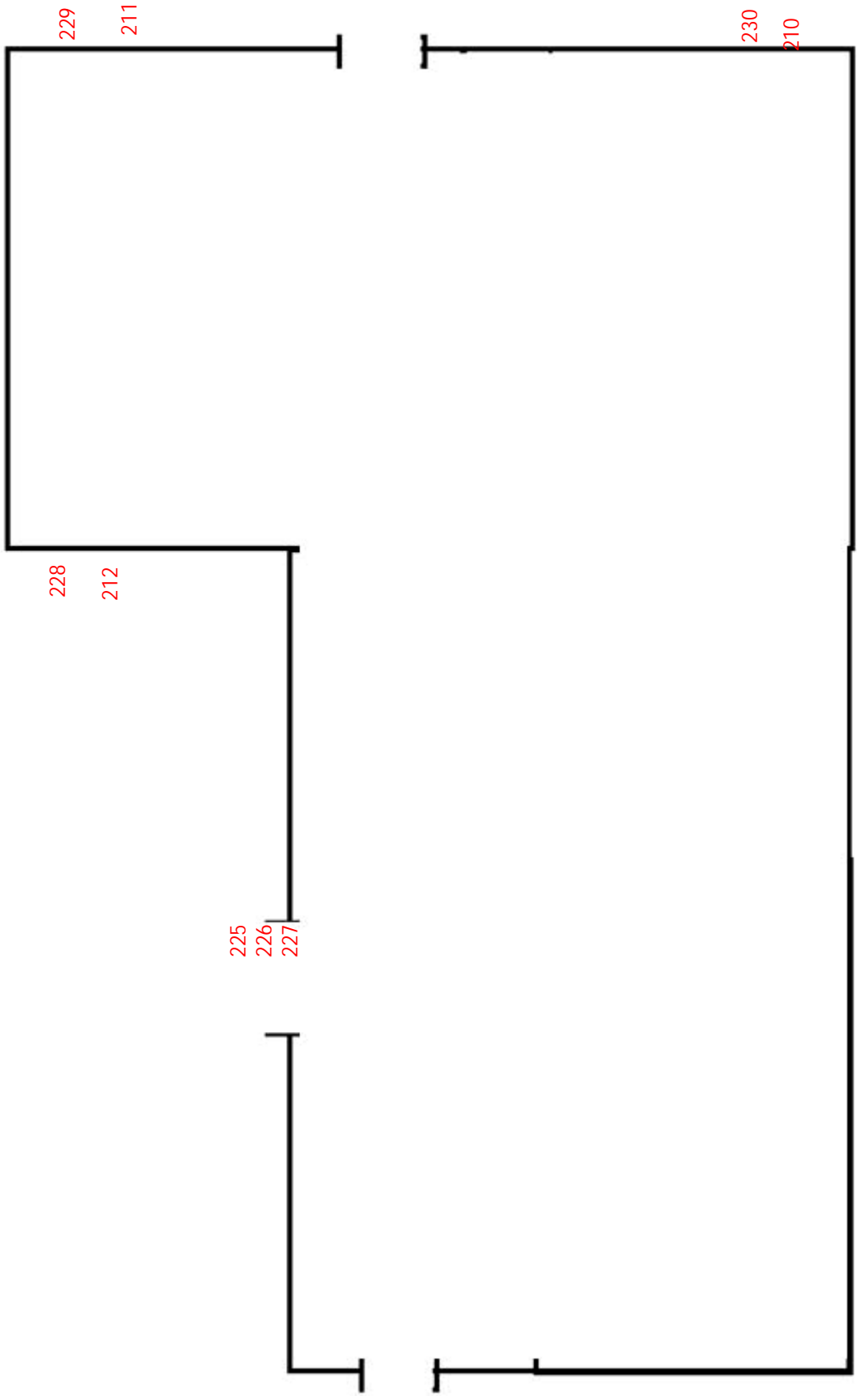
611 Lunken Park Drive
 Cincinnati, Ohio 45226
 PH: (513) 321-05816
 FAX (513) 321-0294

Attic Sample Location Diagram

East Addition
 2160 Versailles Road
 Lexington, KY

Exhibit

9



Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



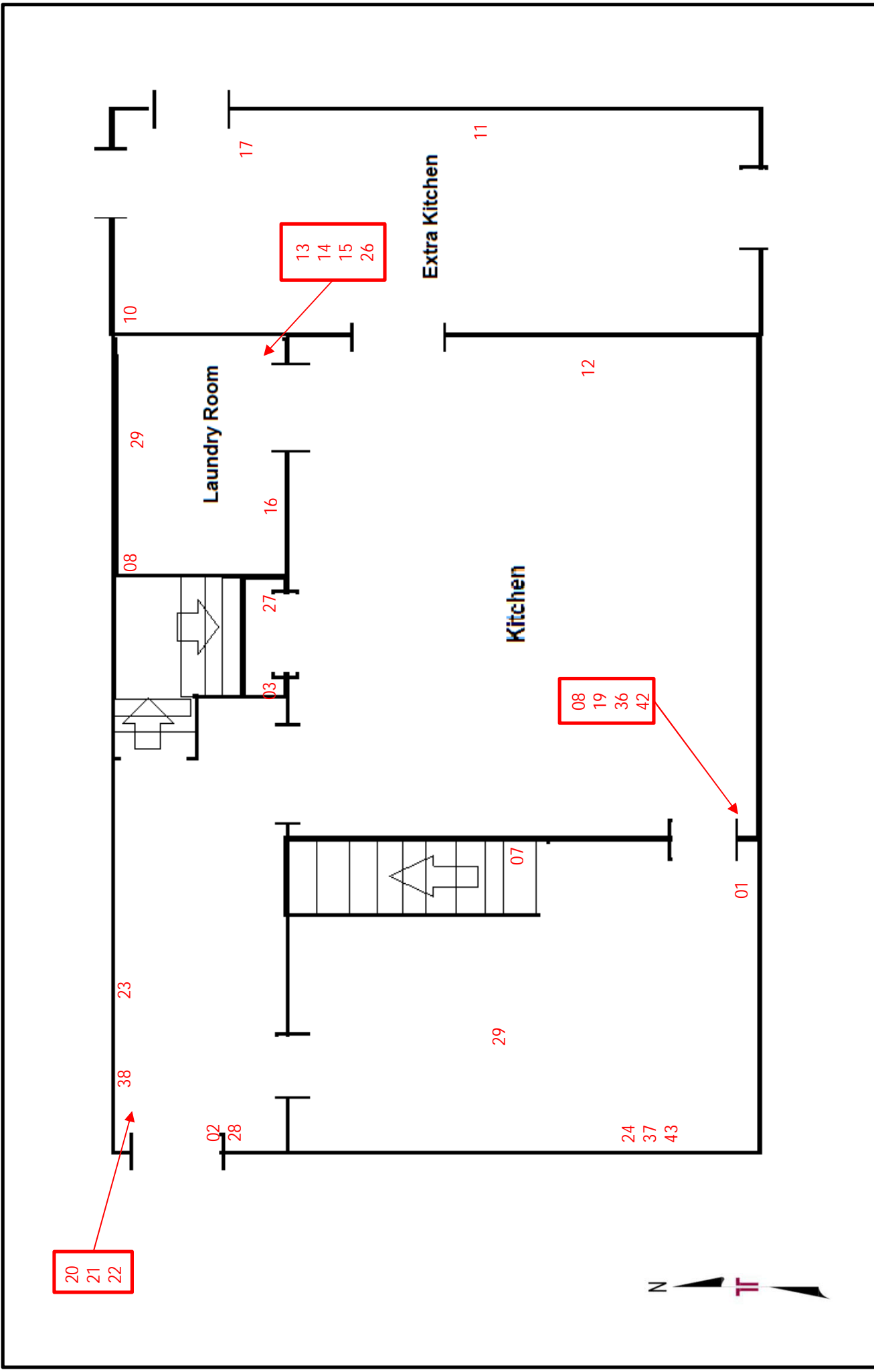
611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294


Exterior Sample Location Diagram

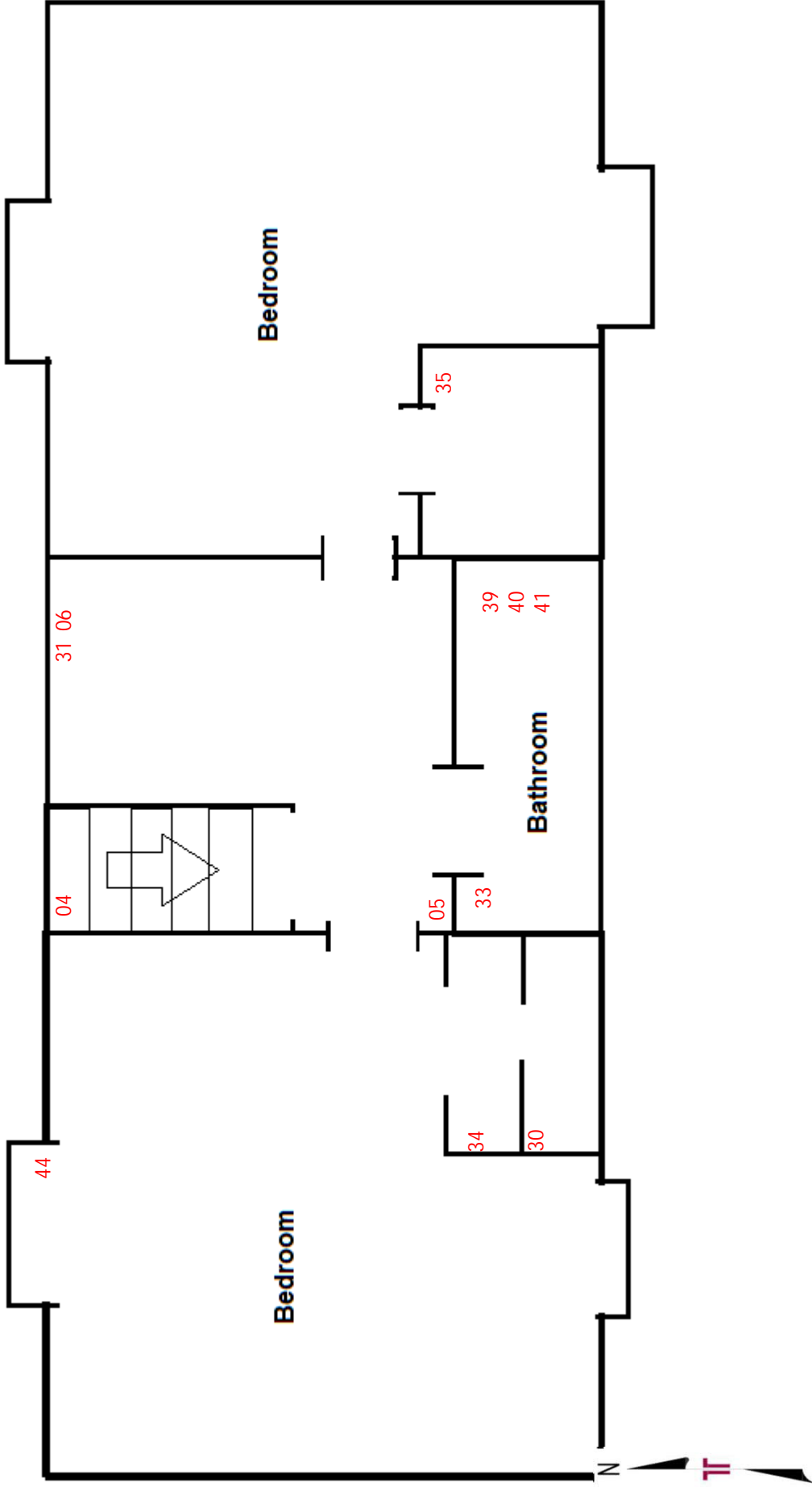
East Addition
2160 Versailles Road
Lexington, KY

Exhibit

10



Project No. N1237347 Survey Date: August 2-4, 2023 Project Manager: Josh Vogel APR: Joe Tussey	1st Floor Sample Location Diagram	Exhibit 11
<div style="text-align: center;">  <p>Consulting Engineers and Scientists</p> <p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p> </div> <div style="text-align: center; margin-top: 20px;"> <p>West Addition 2160 Versailles Road Lexington, KY</p> </div>		



Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



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2nd Floor Sample Location Diagram

West Addition
2160 Versailles Road
Lexington, KY

Exhibit

12

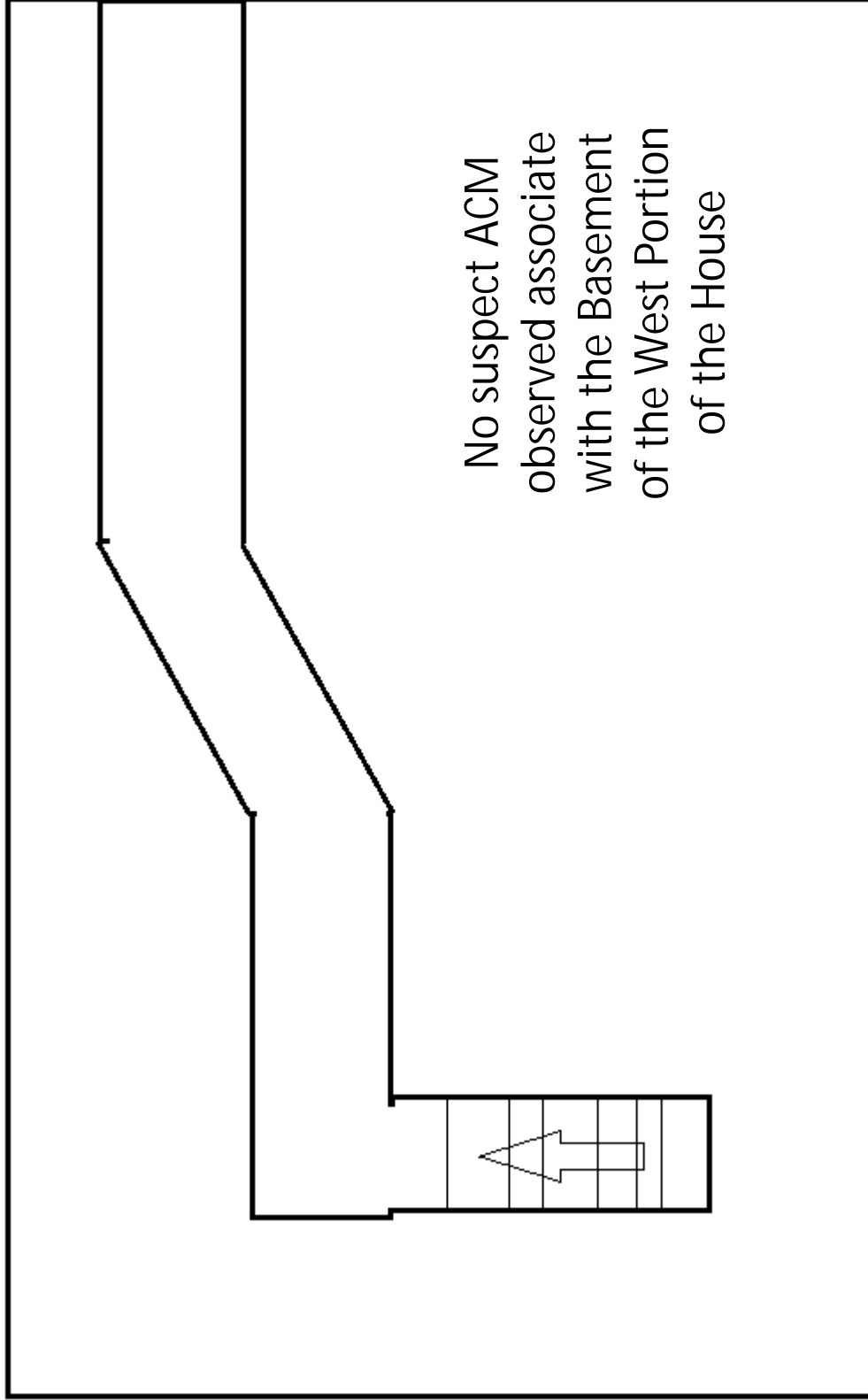


Exhibit	Basement Sample Location Diagram	Project No. N1237347
13	West Addition 2160 Versailles Road Lexington, KY	Survey Date: August 2-4, 2023
 <p>Consulting Engineers and Scientists 611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>		Project Manager: Josh Vogel
		APR: Joe Tussey

246
247
248

250

44

249



43

261
262
263

252
253
254

42 251

Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



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PH: (513) 321-05816
FAX (513) 321-0294

Exterior Sample Location Diagram

West Addition
2160 Versailles Road
Lexington, KY

Exhibit

14

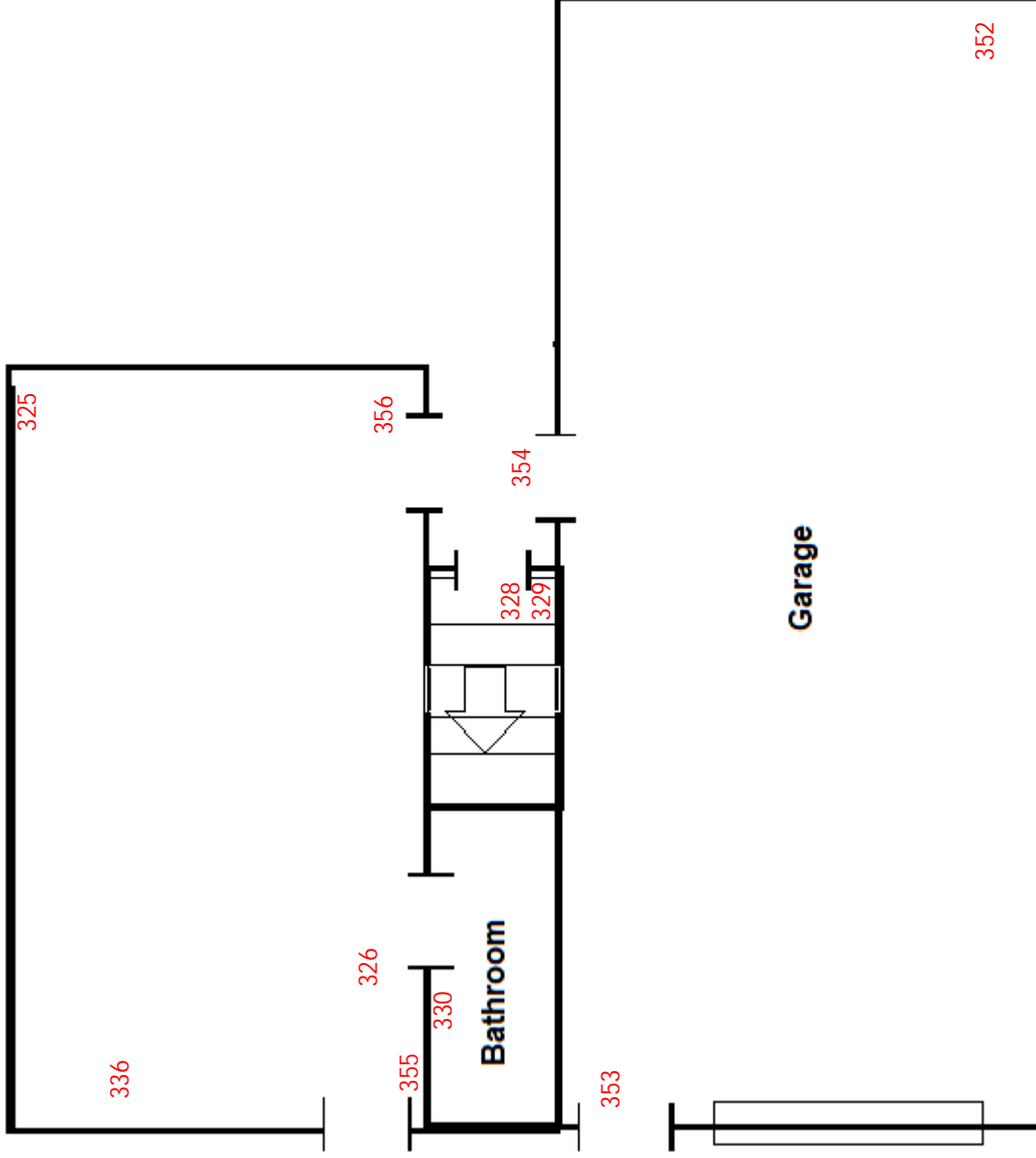
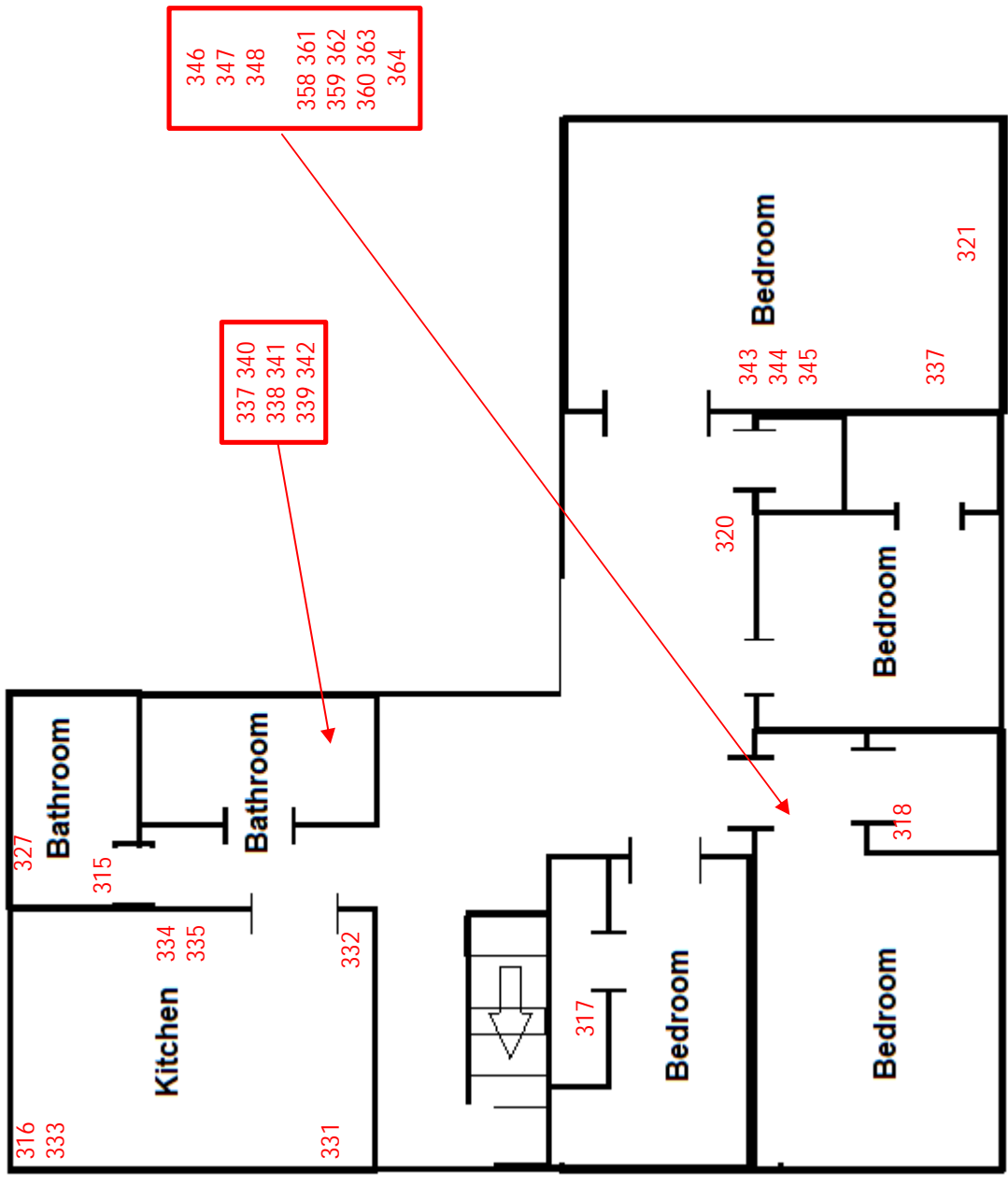
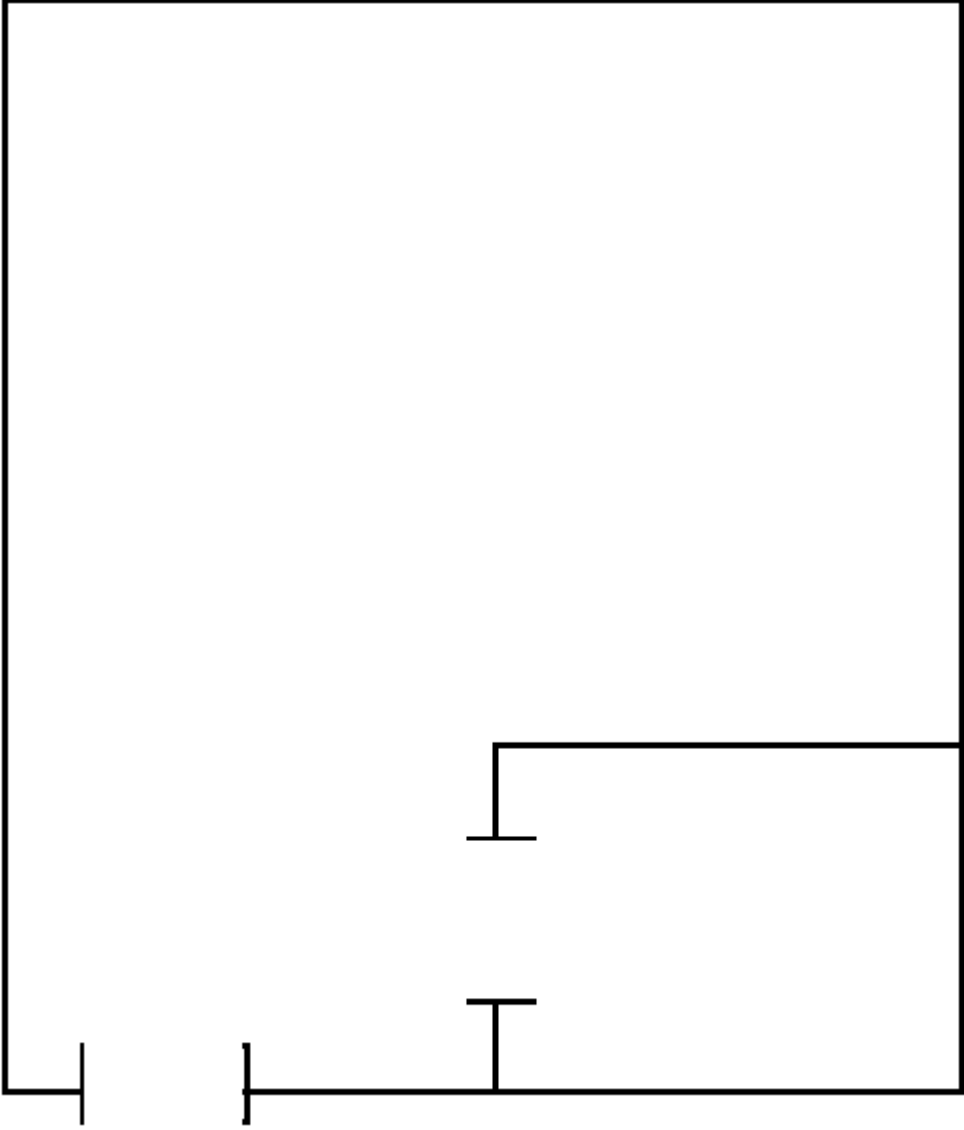


Exhibit	15
1 st Floor Sample Location Diagram	Garage/Guest House 2160 Versailles Road Lexington, KY
<p>Terracon Consulting Engineers and Scientists</p> <p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>	
Project No. N1237347	Survey Date: August 2-4, 2023
Project Manager: Josh Vogel	APR: Joe Tussey



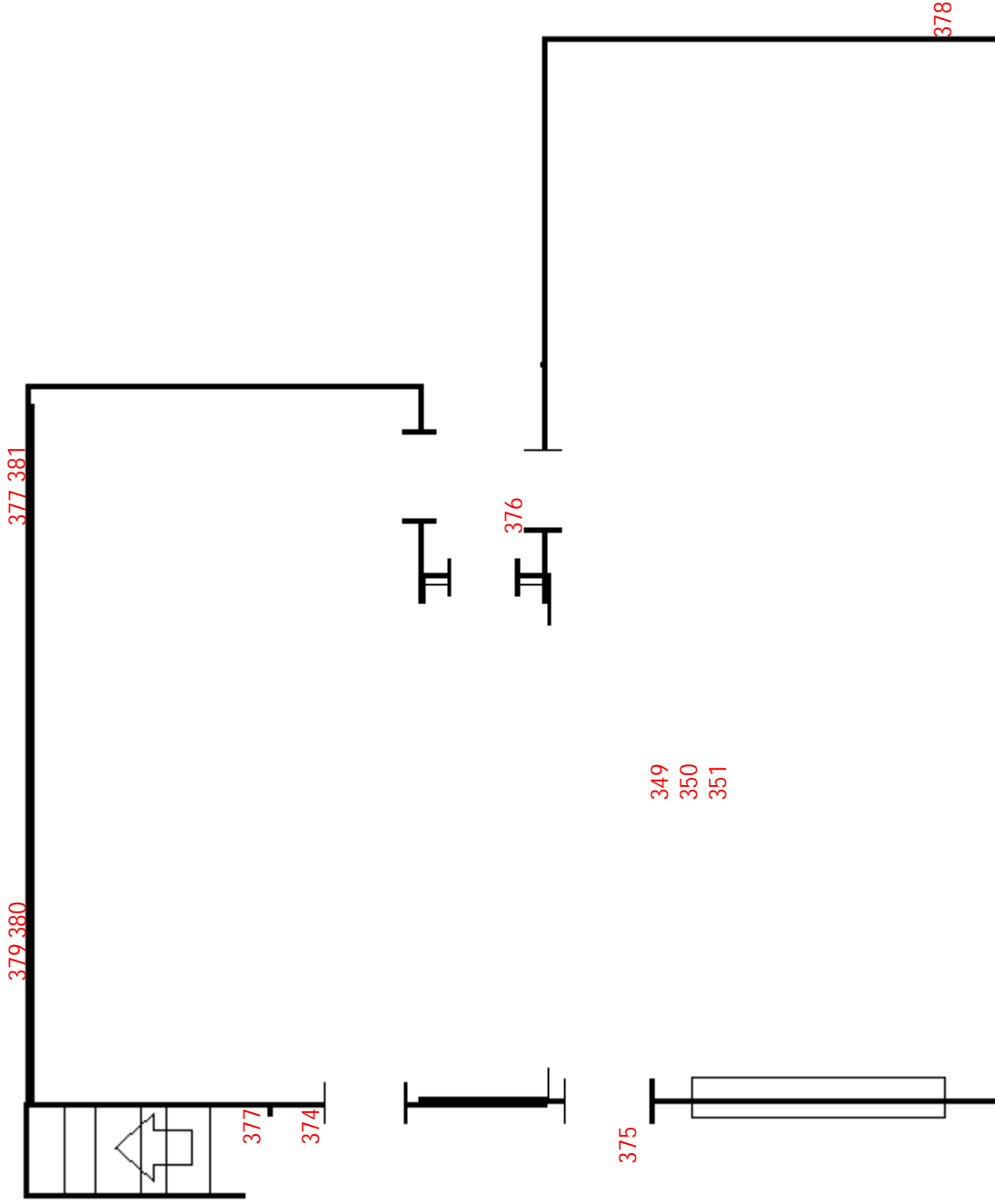
Project No. N1237347 Survey Date: August 2-4, 2023 Project Manager: Josh Vogel APR: Joe Tussey	 Consulting Engineers and Scientists 611 Lunken Park Drive Cincinnati, Ohio 45226 PH. (513) 321-05816 FAX (513) 321-0294	2nd Floor Sample Location Diagram Garage/Guest House 2160 Versailles Road Lexington, KY	Exhibit 16
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No suspect
ACM
observed in
Basement of
Garage/Guest
House



Exhibit	Basement Overview Diagram	 <p>Consulting Engineers and Scientists</p>	Project No. N1237347
17	Garage/Guest House 2160 Versailles Road Lexington, KY	<p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>	Survey Date: August 2-4, 2023
		Project Manager: Josh Vogel	
		APR: Joe Tussey	



Project No. N1237347	Exterior Sample Location Diagram	Exhibit
Survey Date: August 2-4, 2023	Garage/Guest House 2160 Versailles Road Lexington, KY	18
Project Manager: Josh Vogel	 <p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>	
APR: Joe Tussey		

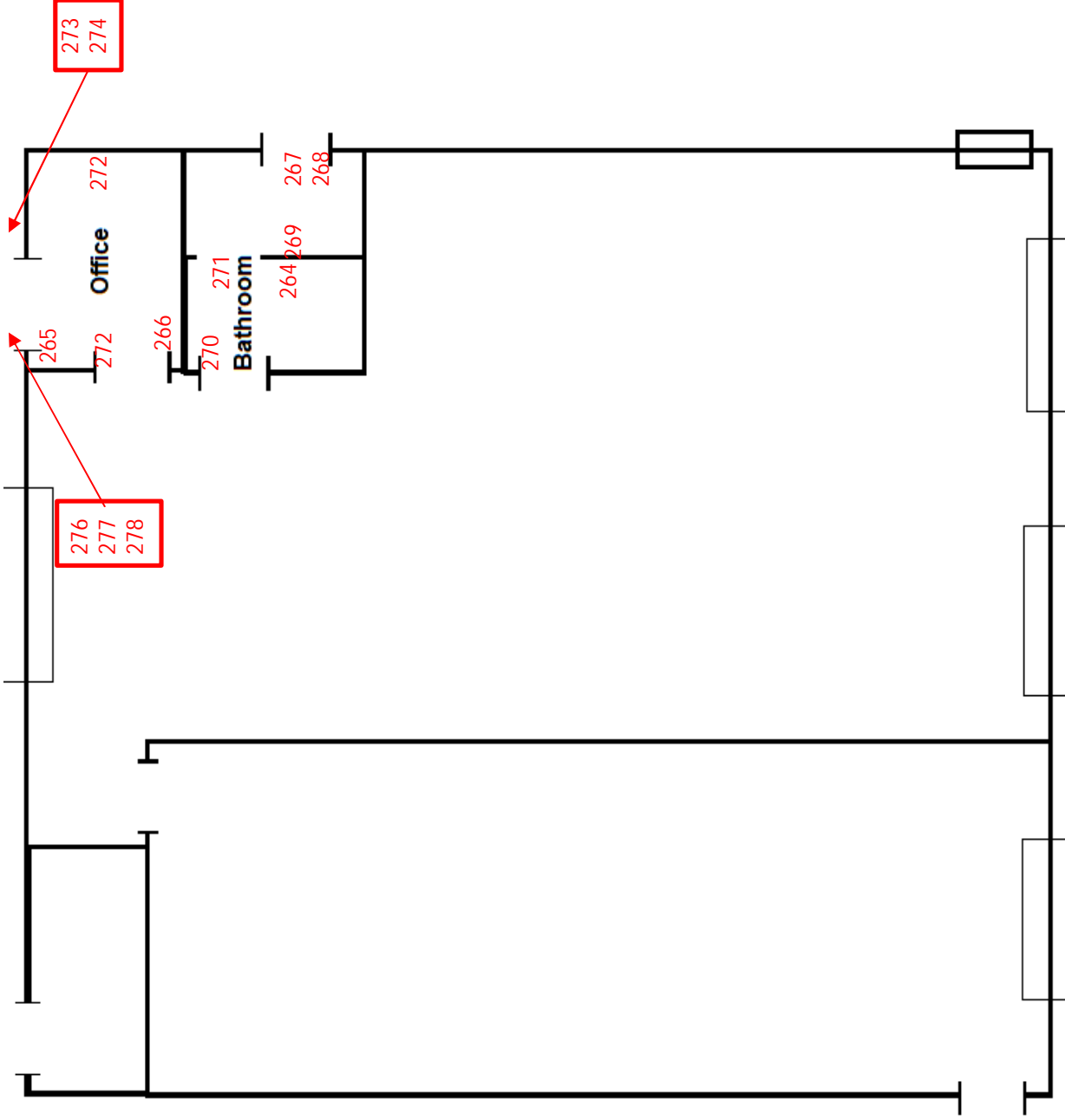
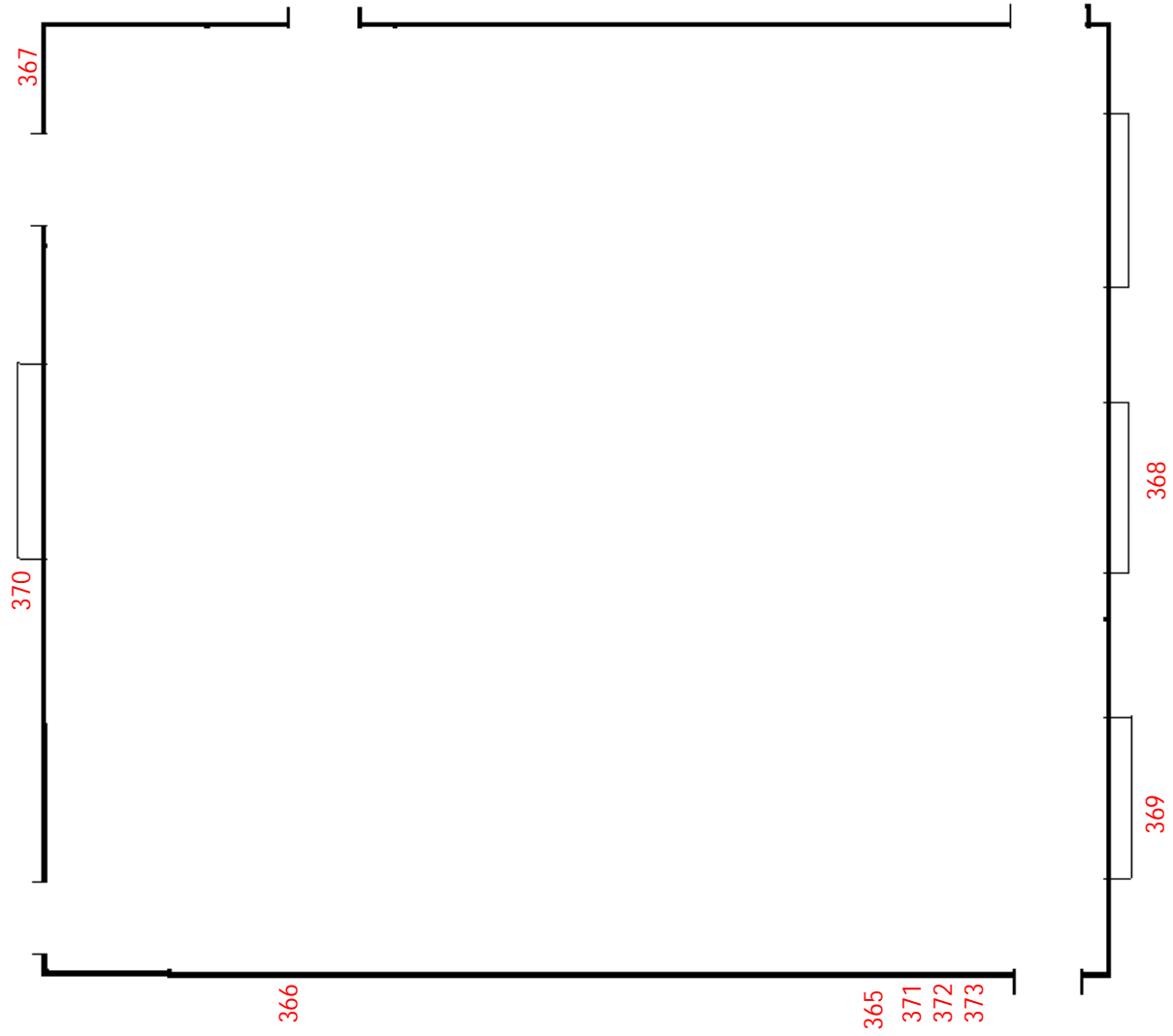


Exhibit	<p style="text-align: center;">19</p>
Interior Sample Location Diagram	
<p>Project No. N1237347</p> <p>Survey Date: August 2-4, 2023</p> <p>Project Manager: Josh Vogel</p> <p>APR: Joe Tussey</p>	<p style="text-align: center;">Terracon Consulting Engineers and Scientists</p> <p style="text-align: center;">611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>



Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



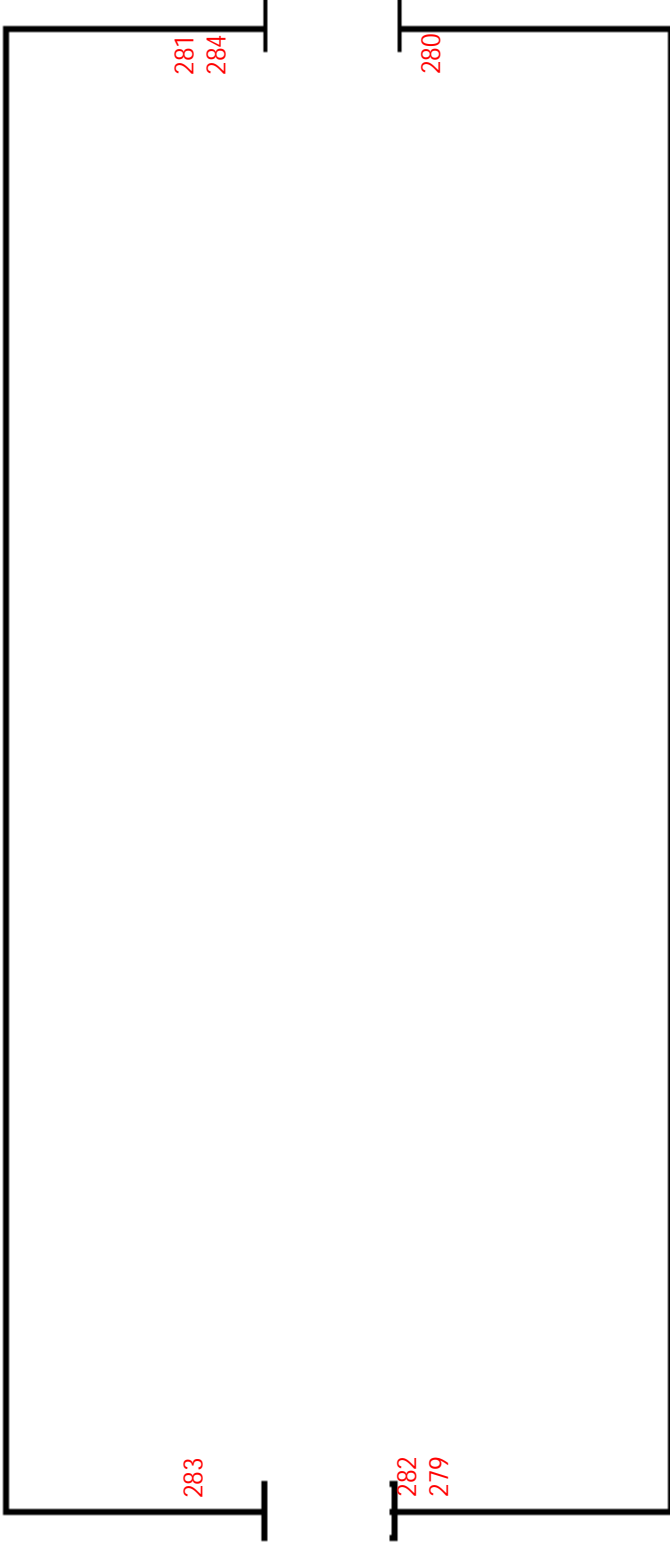
611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294

Exterior Sample Location Diagram

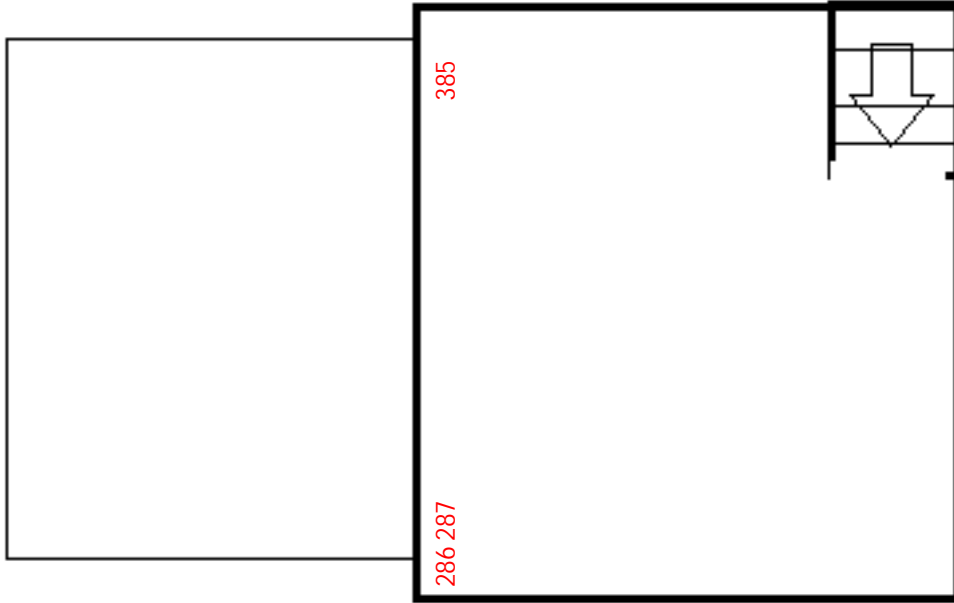
Maintenance Building
2160 Versailles Road
Lexington, KY

Exhibit

20

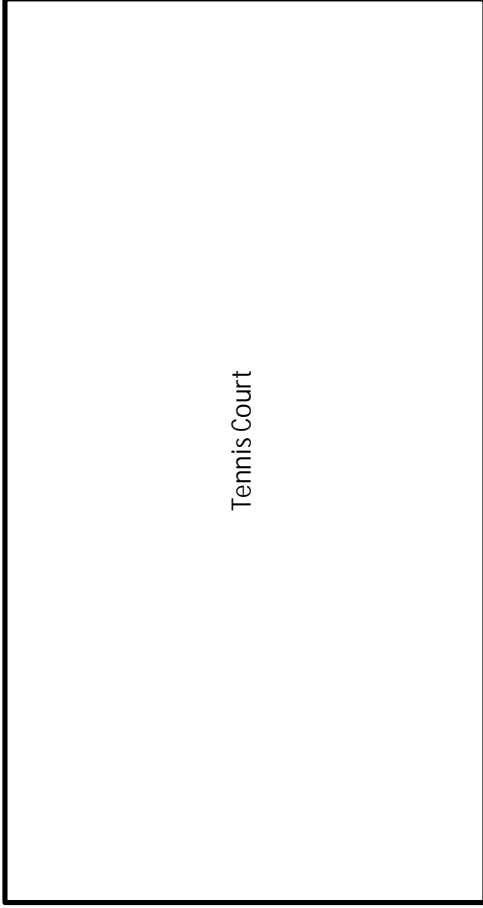
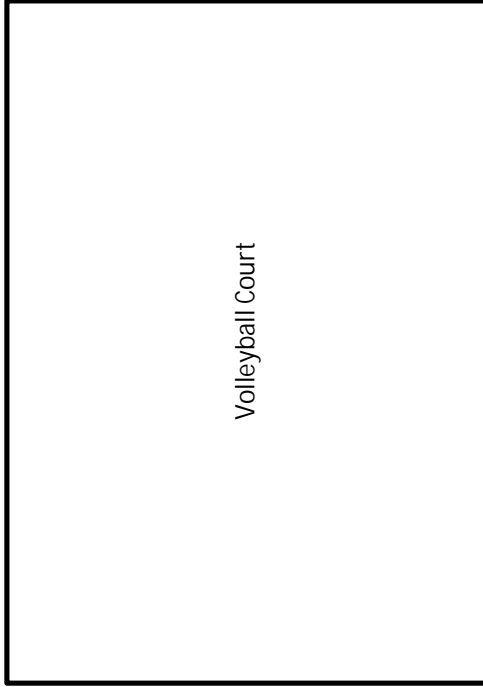
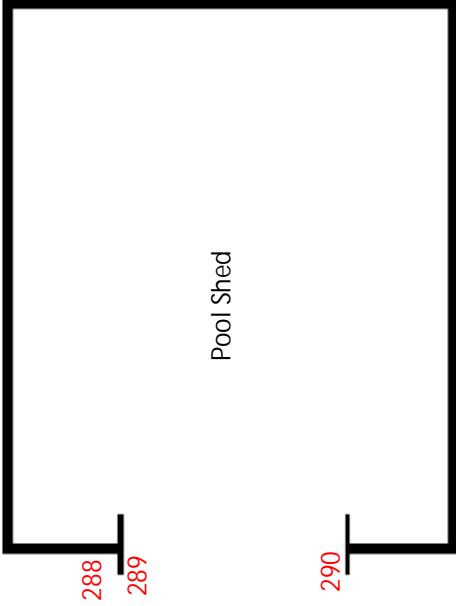


Project No. N1237347	 <p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>	Interior Sample Location Diagram Greenhouse 2160 Versailles Road Lexington, KY	Exhibit
Survey Date: August 2-4, 2023			
Project Manager: Josh Vogel			
APR: Joe Tussey			
			21



Project No. N1237347 Survey Date: August 2-4, 2023 Project Manager: Josh Vogel APR: Joe Tussey	 <p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>	Exterior Sample Location Diagram Treehouse 2160 Versailles Road Lexington, KY	Exhibit 22
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Shuffleboard Court



Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



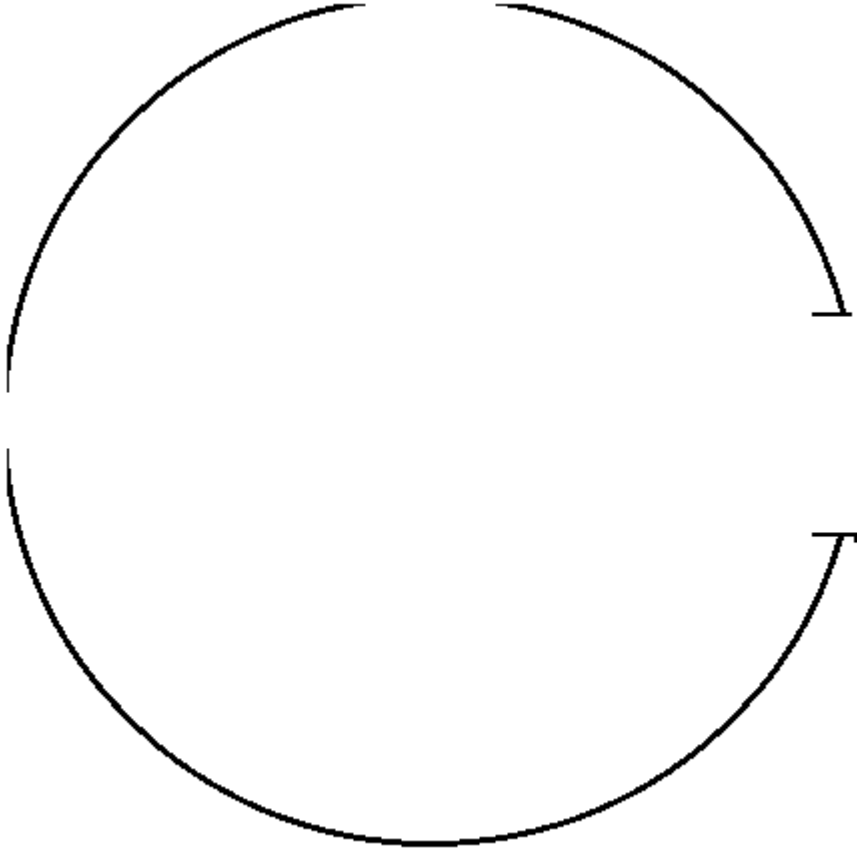
611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294

Sample Locations Diagram

Pool Shed, Tennis Court, Volleyball Court, and
Shuffleboard Court
2160 Versailles Road
Lexington, KY

Exhibit

23



No suspect ACM associated with the silo structure observed



Project No. N1237347	 Consulting Engineers and Scientists 611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294	Silo Diagram	Exhibit
Survey Date: August 2-4, 2023			
Project Manager: Josh Vogel			
APR: Joe Tussey			

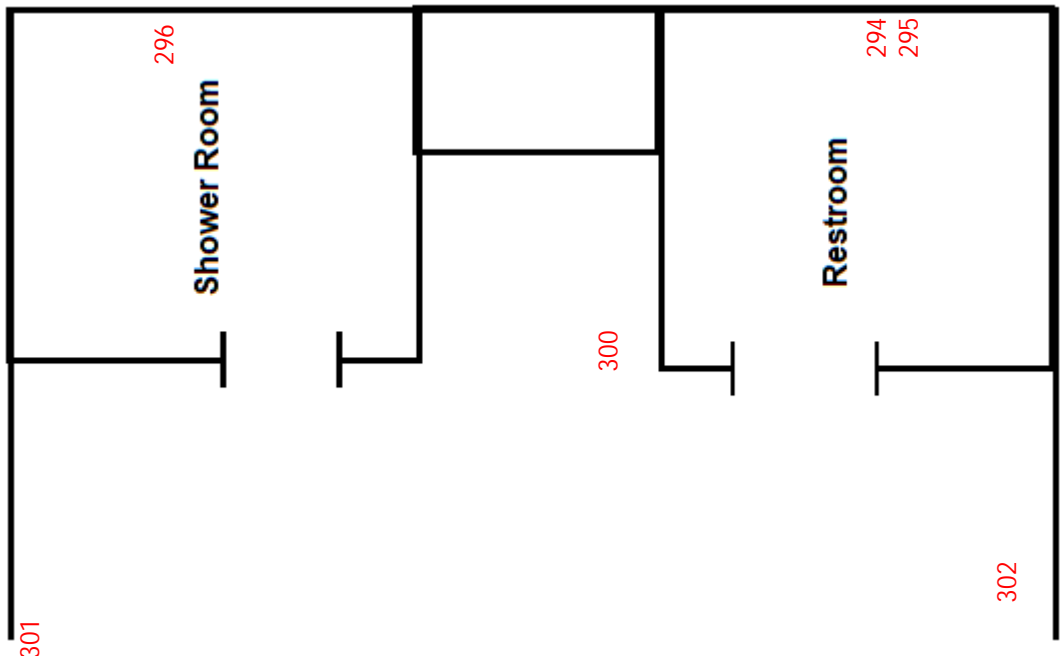
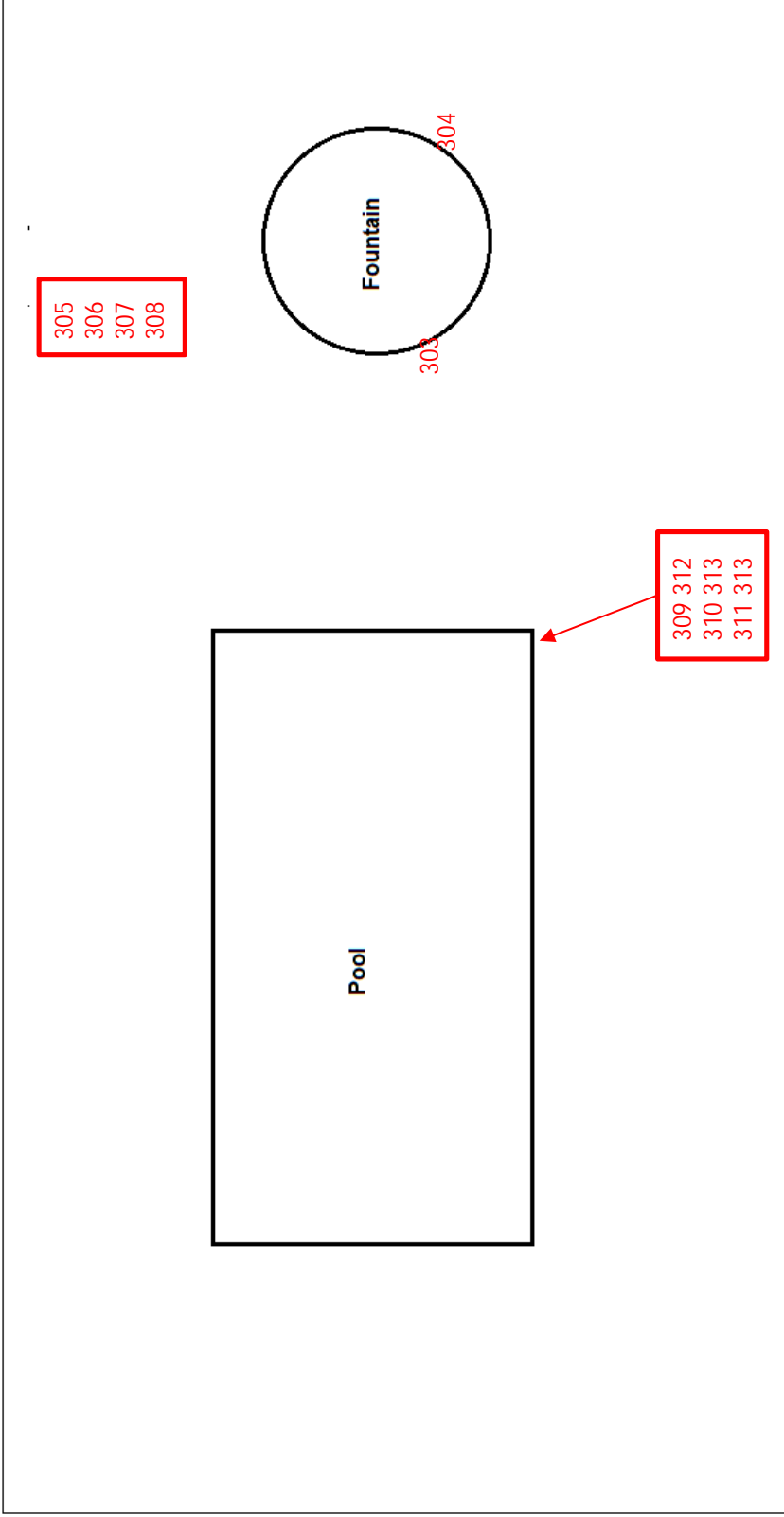


Exhibit
25

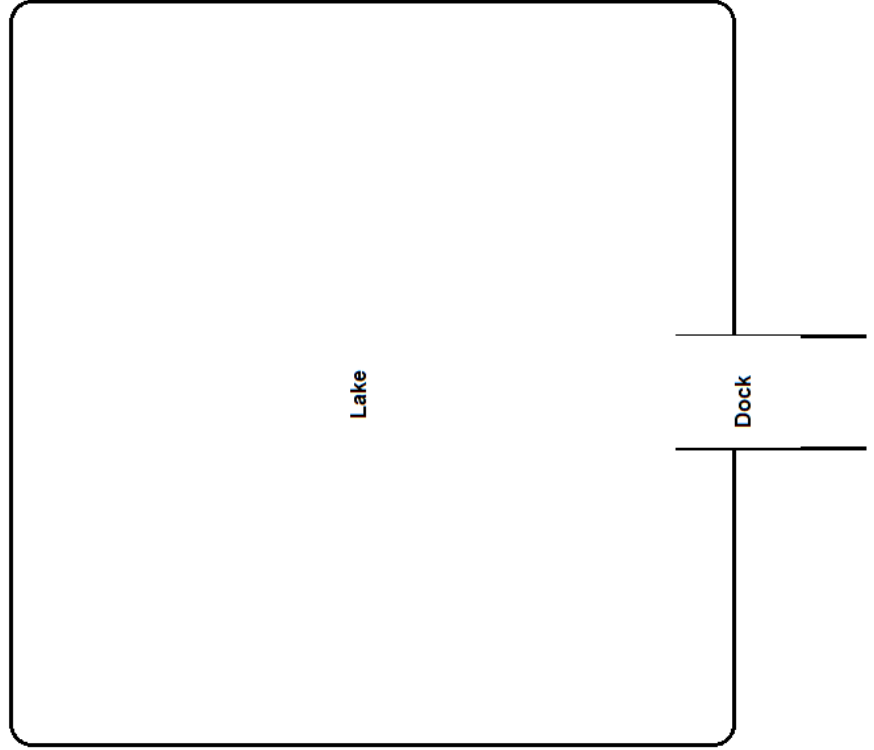
Interior and Exterior Sample Location Diagram
Pool Bath House
2160 Versailles Road
Lexington, KY

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Cincinnati, Ohio 45226
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Project No. N1237347
Survey Date: August 2-4, 2023
Project Manager: Josh Vogel
APR: Joe Tussey



Project No. N1237347	 <p>611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294</p>	Inground Swimming Pool and Patio Fountain Sample Location Diagram	Exhibit 26	
Survey Date: August 2-4, 2023				Patio Area 2160 Versailles Road Lexington, KY
Project Manager: Josh Vogel				
APR: Joe Tussey				



No suspect ACM associated with the lake structures

Project No. N1237347

Survey Date: August 2-4, 2023

Project Manager: Josh Vogel

APR: Joe Tussey



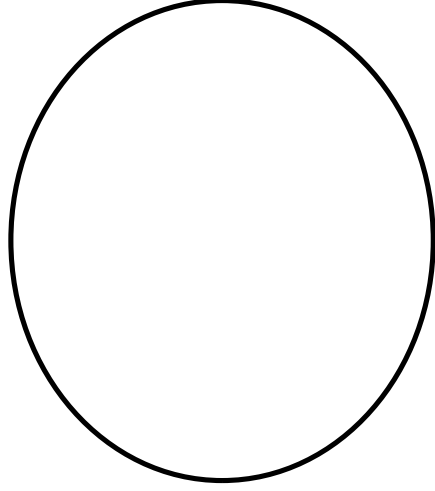
611 Lunken Park Drive
Cincinnati, Ohio 45226
PH: (513) 321-05816
FAX (513) 321-0294

Lake Structures Diagram

Lake Gazebo and Dock Area
2160 Versailles Road
Lexington, KY

Exhibit

27



No suspect ACM
associated with
the House
Gazebo
Structure



Project No. N1237347	 Consulting Engineers and Scientists 611 Lunken Park Drive Cincinnati, Ohio 45226 PH: (513) 321-05816 FAX (513) 321-0294	House Gazebo Diagram House Gazebo 2160 Versailles Road Lexington, KY	Exhibit 28
Survey Date: August 2-4, 2023			
Project Manager: Josh Vogel			
APR: Joe Tussey			

APPENDIX F



PHOTO LOG

	
<p>Photo 1 HA 16: <1% Asbestos-Containing Base Coat within Plaster Wall and Ceiling System (Main House).</p>	<p>Photo 2 HA 40: Asbestos-Containing White Duct Tape (Main House).</p>
	
<p>Photo 3 HA 62: Asbestos-Containing White Exterior Door Caulking (Main House).</p>	<p>Photo 4 HA 63: Asbestos-Containing White Exterior Window Caulking (Main House).</p>
	<p>Photo Unavailable</p>
<p>Photo 5 HA 64: Asbestos-Containing White Exterior Window Glazing (Connecting Room Between Main House and East Addition).</p>	<p>Photo 6 HA 65: Asbestos-Containing White Exterior Window Caulking (Connecting Room Between Main House and East Addition).</p>

Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347



	
<p>Photo 7 HA 66: Asbestos-Containing Brown Exterior Door Caulking (Front Door, East Addition)</p>	<p>Photo 8 HA 67: Asbestos-Containing Brown Exterior Door Caulking (East Addition)</p>
	
<p>Photo 9 HA 72: Asbestos-Containing White/Brown Exterior Window Caulking (Main House, Dining Room West Window).</p>	<p>Photo 10 HA 73: Asbestos-Containing Gray Exterior Door Caulking (West Addition)</p>
<p>Photo Unavailable</p>	<p>Photo Unavailable</p>
<p>Photo 11 HA 74: Asbestos-Containing Brown Exterior Window Caulking (West Addition)</p>	<p>Photo 12 HA 105: <1% Asbestos-Containing Vermiculite Fill Insulation (Garage/Guest House).</p>

Asbestos Inspection Report

Residential Property | 2160 Versailles Rd., Lexington, KY
August 16, 2023 | Terracon Report No. N1237347



<p>Photo Unavailable</p>	<p>Photo Unavailable</p>
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Photo 13 HA 108: Asbestos-Containing Joint Compound within the Drywall system (<0.05% by Composite with Point Count, 0.50% Chrysotile in Joint Compound Layer) (Garage/Guest House)

Photo 14 HA 114: Asbestos-Containing Red/White Exterior Window Caulking (Garage/Guest House)

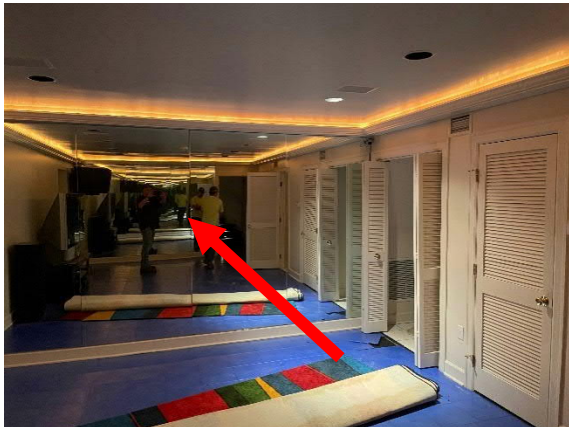


Photo 15 HA 117: Assumed Asbestos-Containing Glue Dots Behind Mirrors (Main House, Basement)