PROJECT MANUAL

PROJECT NAME AND LOCATION:

Window Replacements **Contract Number: HW2104131**
Woodside East Apartments

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INVITATION TO BID

King County Housing Authority (KCHA) will accept bids from qualified general contractors to furnish labor, materials and necessary equipment to perform the following:

SCOPE OF WORK: Work includes, but is not limited to, the windows replacements and other tasks as described in the bid documents.

PROJECT MANUAL DISTRIBUTION:

Address: King County Housing Authority, 600 Andover Park, Seattle, WA 98188

Distribution: * **Documents are available for download on KCHA's website at http://www.kcha.org/business/construction/open/**

PRE-BID CONFERENCE:

Date and Time: July 27, 2021 at 10:00 A.M.

Jobsite Address: Woodside East Apartments, 16240 NE 14th St, Bellevue, WA 98008.

In Addition: Contractors are strongly encouraged to attend the Pre-Bid Conference. Failure to attend the Conference will not relieve the Contractor of any responsibility for information provided at that time.

For Questions: Questions pertaining to the bid are to be sent via email to michellej@kcha.org no later than seven (7) calendar days prior to bid due date. All responses shall be in the form of Addenda.

Posting: Addenda will be posted on KCHA's website.

BIDS ARE DUE:

Time: **2:00 P.M.**

Date: **August 5, 2021**

Address: King County Housing Authority
600 Andover Park West, Seattle, WA 98188

Submittal Process: * Bids may be sent to Michelle Jackson via mail or by email to michellej@kcha.org

Process: All Bids must be received by KCHA no later than the above due date and time. No Bids will be accepted after that date and time.

BID GUARANTEE: Not Required.

PERFORMANCE AND PAYMENT BONDS: As a condition of award Performance and Payment bonds for 100% of the Contract Award Amount shall be furnished for the Work. On contracts of one hundred fifty thousand dollars ($150,000.00) or less, at Contractors option the requirement may be waived in lieu of an additional 5% (total 10%) retainage.

KCHA is an Equal Employment Opportunity Employer and strongly encourages minority-owned and women-owned businesses, socially and economically disadvantaged businesses, and small businesses to submit bids or to participate as subcontractors and suppliers on KCHA Contracts.

KCHA reserves the right to reject any or all bids or to waive any informality in the bidding. No bid shall be withdrawn for a period of 60 calendar days subsequent to the opening of the bids without the written consent of KCHA.

CONTACT PERSON: Michelle Jackson at michellej@kcha.org

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Window Replacements

1. Project Location: Woodside East Apartments, 16240 NE 14th St, Bellevue, WA 98008

a. Building V and W

2. The Work consists of, but is not limited to:

a. Removal of existing windows and trim.
b. Trim or add material to ensure that windows meet wraps and sills.
c. Supply and installation of vinyl windows, self-adhesive tape, sealant, trim and metal flashing.
d. Paint trim boards to match existing.
e. Repair, paint and patch interior window wraps and sills.

1.2 WORK SEQUENCE

A. The Work shall be completed in 45 calendar days from the date of Notice to Proceed.

1. Contractor shall be entitled to an equitable adjustment in the Contract Time for changes in the time of performance directly attributable to severe weather conditions. For additional days to be considered the Contractor shall notify the Owner no later than 8:00 a.m. on each day of a severe weather condition.

B. Contractor will submit written schedule outlining dates and duration of job including:

1. Construction start date
2. Schedule for work in each building
3. Anticipated final completion date

1.3 LIQUIDATED DAMAGES

A. Liquidated damages will be assessed for each calendar day that the Contractor exceeds the time for completion in the amount of $250.

1.4 USE OF THE PREMISES

A. Use of Site: Limit use of premises to work areas. Do not disturb portions of site beyond areas in which the Work is indicated.

1. Owner Occupancy: Allow for resident occupancy of site. Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate resident usage.
2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to residents and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
3. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect property, the buildings and occupants during construction period.

1.5 PERMITS

A. Contractor is responsible for obtaining and paying for all permits and for the coordination of all required inspections.

B. Prepare and file necessary plans, prepare documents and obtain necessary approvals of Authorities Having Jurisdiction (AHJ). Obtain required certificates of inspection for work and deliver to the Owner before request for acceptance and final payment for the work.

1.6 CONTRACT MODIFICATION PROCEDURES

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.

C. Construction Change Directive: Owner may issue a Construction Change Directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

D. Documentation: Maintain detailed records required for a change order to be approved and provide evidence of the following:

1. Wage Rates
2. Hours worked for each trade
3. Materials
4. Equipment

E. Do not perform change order Work without approval of the Owner. Work performed without approval will not be compensated.

1.7 PAYMENT PROCEDURES

A. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

B. Each Application for Payment shall be consistent with previous applications and payments.

C. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

D. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity that is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

E. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

1.8 PROJECT MEETINGS

A. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, but no later than 7 days after execution of the Agreement.

B. Progress Meetings: Conduct progress meetings at weekly intervals.

1.9 SUBMITTALS

A. Provide product data for each element of construction and type of product or equipment for approval by Owner.

B. Subcontract list. Prepare written information that demonstrates capabilities and experience of firm or persons.

C. Contractors project manager and/or supervisors. Prepare written information that demonstrates capabilities and experience of firm or persons.

1. The Owner will review subcontractors and assigned staff and will accept or reject based on experience or qualifications.

D. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific Accident Prevention Program (APP) to the Owner’s representative prior to the initial scheduled construction meeting.

1.10 TEMPORARY FACILITIES

A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.

B. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.

C. Use of Owner's existing electric power service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.

D. Four parking spaces shall be available to the contractor for storage containers and parking. Do not park in marked tenant spaces.

1.11 SUBSTITUTIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

B. Substitution requests may be submitted and shall include:

1. Shop drawings showing dimensions
2. Product Data, including descriptions of products and fabrication and installation procedures
3. Data showing how product meets the specifications

1.12 CONSTRUCTION WASTE MANAGEMENT

A. Regulatory Requirements: Conduct construction waste management activities in accordance with State of Washington RCW 39.04.13, and all other applicable laws and ordinances.

B. Performance Requirements

1. General: Where possible divert CDL waste from the landfill by one, or a combination of the following activities: Salvage, Reuse, Source-Separated CDL Recycling, Co-mingled CDL Recycling.

C. Removal of Construction Waste Management

1. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
2. Transport CDL waste materials off Owner's property and legally dispose of them.
3. Burning of CDL waste is not permitted.

1.13 EXECUTION REQUIREMENTS

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

1.14 CUTTING AND PATCHING

A. Quality Assurance

1. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
2. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Performance

1. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
2. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

    a. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    b. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

1.15 CLOSEOUT PROCEDURES

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

1. Prior to acceptance of the work at each building, clean project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.

B. Prior to final acceptance and final payment, Contractor shall submit a written warranty covering labor and materials for a period of one (1) year from final completion.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

SECTION 01732 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes demolition, and removal and replacement.

1. Selected portions of a building or structure to be demolished include but are not limited to:

a. All windows, patio sliders and trim.
b. Adjust existing liners and sills as necessary.

1.2 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.3 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72-hours' notice to Owner of activities that will affect Owner's operations.

B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for condition of areas to be selectively demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb and immediately notify Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Storage or sale of removed items or materials on-site will not be permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

A. Use repair materials identical to existing materials.

1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

3.2 UTILITY SERVICES

A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
3. Protect existing site improvements, appurtenances, and landscaping to remain.

3.4 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.

B. Removed and installation of new items: Remove and install items as soon as possible to prevent unsafe conditions.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

SECTION 08531 – VINYL WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Operable Extruded Vinyl (PVC) Windows to match existing.

1.2 SUBMITTALS

A. Product Data: Provide manufacturer's standard details and catalog data demonstrating compliance with referenced standards; include installation instructions and storage requirements.

1. Drawings:

a. Drawings demonstrating dimensional layout of rails, stiles and muntins.

2. Samples:

a. Color samples: Minimum 1 x 4 inch samples of PVC with integral color.
b. Glass.

3. Quality Assurance/Control Submittals:

a. Qualifications: Proof of manufacturer’s qualifications.
b. U-Factor and structural rating test data.
c. Manufacturer’s Installation Instructions.

B. Closeout Submittals: Submit following items:

1. Temporary labels marked to identify windows that labels were applied to.
2. Maintenance instructions.
3. Special Warranties.

1.3 QUALITY ASSURANCE

A. Overall Standards: Comply with AAMA/WDMA/CSA 101/I.S.2/A440-05 except as otherwise noted herein.

B. Qualifications:

1. Manufacturer Qualifications:

a. Certified Manufacturer by AAMA, and NFRC.

C. Certifications for insulated glass windows:

1. AAMA: Windows shall be Gold Label certified with label attached to frame per AAMA requirements.
2. NFRC: Windows shall be NFRC certified with temporary U-factor label applied to glass and an NFRC tab added to permanent AAMA frame label.

D. Mock-up

1. Install window mock-up using approved assembly including fasteners, flashing, tape and related accessories in accordance with the drawings and specifications, and manufacturer's current printed instructions and recommendations.

    a. Mock-up location: As selected by Owner.
    b. Coordinate installation with Owner and give a minimum of one week's notice prior to installation.
    c. Mock-up may remain as part of the work.

2. Testing

    a. The window assembly shall be tested in accordance with ASTM, E783-02(10) standard test method for field measurement of air leakage through installed exterior windows and doors.

        1) The test room shall be pressurized to 50 Pascal with respect to the exterior.
        2) The installation shall be inspected by the Owner with chemical smoke for air leakage of the window installation. This is not a test of the window but of the window installation. The judgment of success of the test will be the approval of the installation by the Owner.
        3) The test shall demonstrate that the assembly is substantially airtight with no significant air leakage pathways identified.
        4) The installation and test shall be repeated until a satisfactory standard is attained.
        5) The successfully tested assembly shall be the method of installation for all the windows in the project.
        6) The Owner may test additional windows during the project to ensure compliance. Coordinate with Owner as necessary.

1.4 DELIVERY, STORAGE AND HANDLING

A. Follow manufacturer's instructions on label applied to windows.

1.5 WARRANTY

A. Commercial Special Warranty:

1. 10 year guarantee.
2. Guarantee windows against defects in materials and workmanship for ten years on glass and material including parts and labor.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Ply Gem Windows, 5001 D Street NW, Auburn, WA 98001 Tel. (800) 227-3699.

2.2 MATERIALS

A. Window Frame and Sash Members: Impact resistant, exterior grade polyvinyl chloride extrusions complying with AAMA 303 and ASTM D 4726.

1. Non-corroding, non-flaking, non-chipping, non-rotting; no electrical conductance; low thermal conductance
2. Minimum External Wall Thickness: 0.070 inch nominal.
3. Finish of Surfaces Exposed to View: Solid vinyl with smooth gloss finish and uniform consistent color.

B. Insulating Unit: Complying with ASTM E 774, Class CBA.

1. Thermal Performance:

a. Total Unit U-Value: 0.30
b. Visible Transmittance: 0.54
c. Solar Heat Gain Coefficient: 0.28

C. Screens: Type installable from interior side, providing reasonable insect control (only) when operable sash is in open position; re-wirable glass fiber mesh, 14 x 18 mesh, secured in channel of aluminum box frame with continuous vinyl spline.

1. Frame Color: Matching frame and sash interior color.

D. Operating Hardware: Types for specified operable-sash windows; sight-exposed hardware of UV-stabilized engineered plastic; color matched to vinyl extrusions for uniform appearance. Die cast zinc cam-type sash locks and keepers, color matched to vinyl extrusions for uniform appearance.

E. Fasteners: Corrosion-resistant.

F. Weatherstripping: Types for specified operable-sash windows and operable doors.

G. Mullions: Structural mullion system complying with AAMA Grade deflection requirements for supported windows; extruded aluminum core; internal and external rigid PVC caps color to match adjacent window frames.

2.3 GENERAL PERFORMANCE REQUIREMENTS

A. Thermal Performance: Comply with NFRC 100.

B. Air Leakage, Water Resistance, Structural Test: Comply with AAMA/WDMA/CSA 101/I.S.2/A440-05

C. Forced-Entry Resistance: Comply with CAWM 301 and ASTM F588

2.4 VINYL WINDOWS

A. A. Manufacturer: Ply Gem Windows, Cary, NC (with offices in Auburn, WA)

B. Other Manufacturers accepted:

1. VPI Quality Windows, Spokane, WA
2. Cascade, WA

C. Product Description: Ply Gem Pro Series, hollow tubular ultra-violet resistant polyvinyl chloride (PVC) window frames with welded corner construction. Configurations of sash as per existing

D. All units to be NFRC rated.

2.5 COMPONENTS

A. A. Minimum energy conservation requirements: U-value 0.27 or better for entire unit.

B. Insulating Glass: HP2+ sealed double pane units, 3/4" inch thick, Low-E argon filled, conforming to the following.

1. Outer Pane: Clear, Low-E coating, float glass, ASTM C1036, Quality 1.
2. Inner Pane: Clear float glass, Interior Surface Low-E, ASTM C1036, Quality 1.
3. Tempered: Clear, ASTM C 1048.
4. Pane Thickness: ¼”.
5. U-value center of glass: 0.26 (summer daytime) and 0.28 (winter night time).
6. Solar Heat Gain Coefficient (SHGC): 0.27.
7. Visible Light Transmittance: 64%.
8. Locations: All units except those specifically identified on the window schedule(s).

C. Window Frame: Extruded multi-chambered PVC frame with integral ultra-violet degradation resistance, continuous integral nailing fin; depth 3-7/16 inches; nominal wall thickness 0.050 to 0.080 inches; corners mitered and heat welded.

D. Window Hardware: Sash lock: Lever handle with cam lock. Install at factory. Standard crank handles for casement windows, standard handle for awning windows. Locate hardware within 48-inches of finished floor.

E. Window Sills: Tubular; sloped for positive wash; one-piece full width of opening.

F. Operable Sash Weather Stripping: Manufacturer's standard; permanently resilient, profiled to effect weather seal.

G. Color: White PVC frame and hardware.

H. Insect Screen Frame: manufacturer's standard frame of rectangular sections; nominal size similar to operable glazed unit.

I. Insect Screens: gray color.

J. Acceptable Product: Pro Series.

2.6 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard.

2.7 FABRICATION

A. Integral nail flange.

B. Units to be factory assembled and glazed.

2.8 FLASHING

A. Self-adhesive flashing tape - 3M™ All weather Flashing Tape 8067.

2.9 SEALANTS

A. Silicone caulk to wet set windows.

B. Paintable caulk to seal siding and trim.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work. Verify rough opening dimensions, levelness of sill plate, and operational clearances. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight window installation.

1. Verify that fasteners in framed walls are fully driven and will not interfere with window installation.
2. Verify that sill is flat and level.

B. Coordinate with responsible entity to correct unsatisfactory conditions.

C. Commencement of work by installer is acceptance of substrate conditions.

3.2 WINDOW INSTALLATION

A. Flash head, jamb and sill in accordance as indicated in these specifications and plans and in accordance with industry standards.

1. Adjust GWB liner and wood sills as necessary including either cutting back or extending to match existing.
2. Install self-adhesive flashing tape to sill, jambs and head.
3. Include butterflies at bottom corners.
4. Wet set windows with silicon caulk along nailing penetrations.

    a. Caulk shall be visible through every penetration after installation.

5. Install self-adhesive flashing tape over the nailing fins.
6. Install flashing as indicated on plans.
7. Caulk interior drywall and sills.
8. Remove and reinstall blinds.

3.3 ADJUSTING

A. Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weather tight closure. Lubricate hardware and moving parts if necessary.

3.4 CLEANING

A. Remove temporary labels and retain for Closeout Submittals.

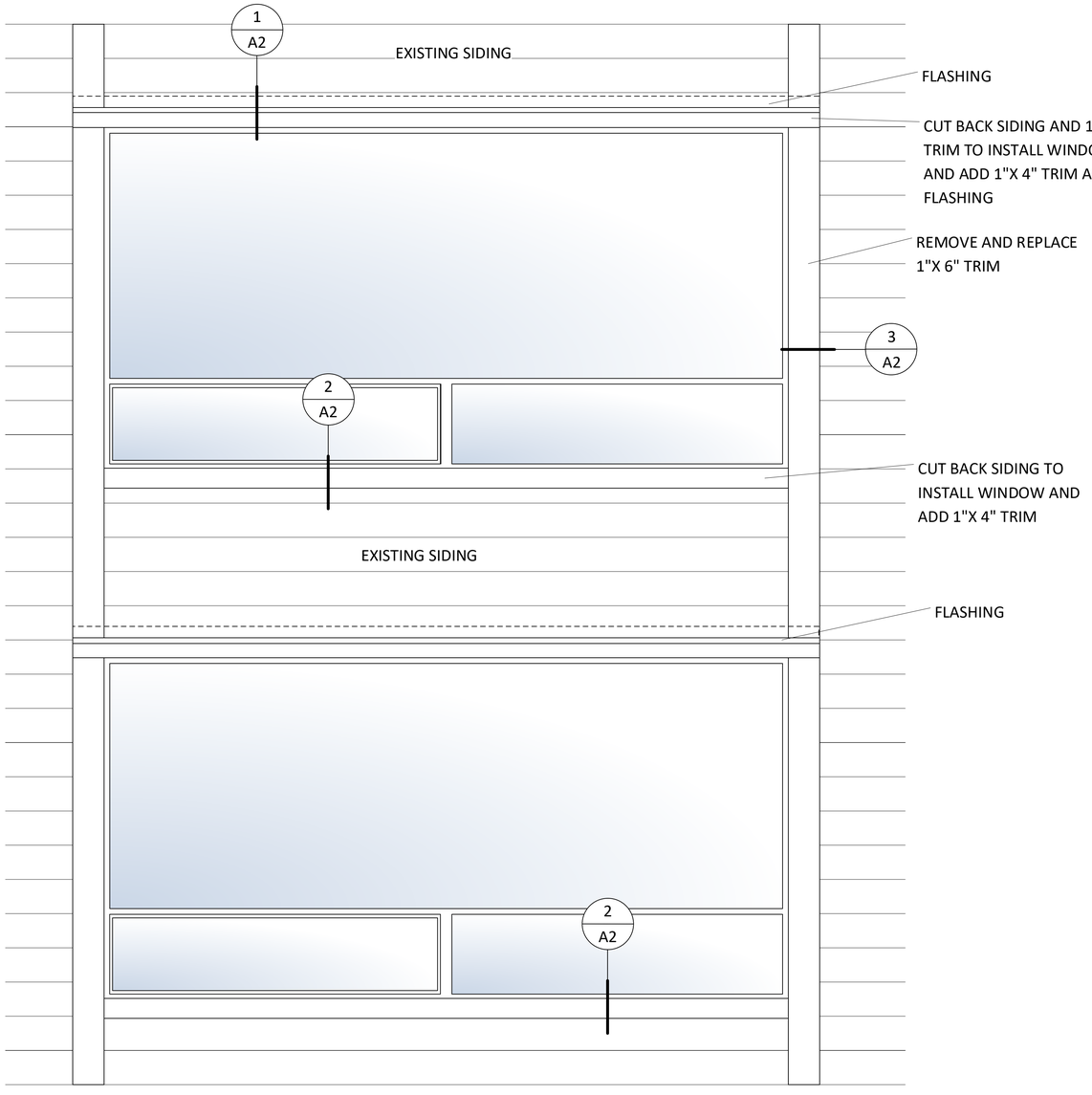
B. Clean factory-glazed glass immediately after installing windows. Clean soiled surfaces and glass using a mild detergent and warm water solution with soft, clean cloths. Remove nonpermanent labels, and clean surfaces.

C. Install insect screens on operable panels.

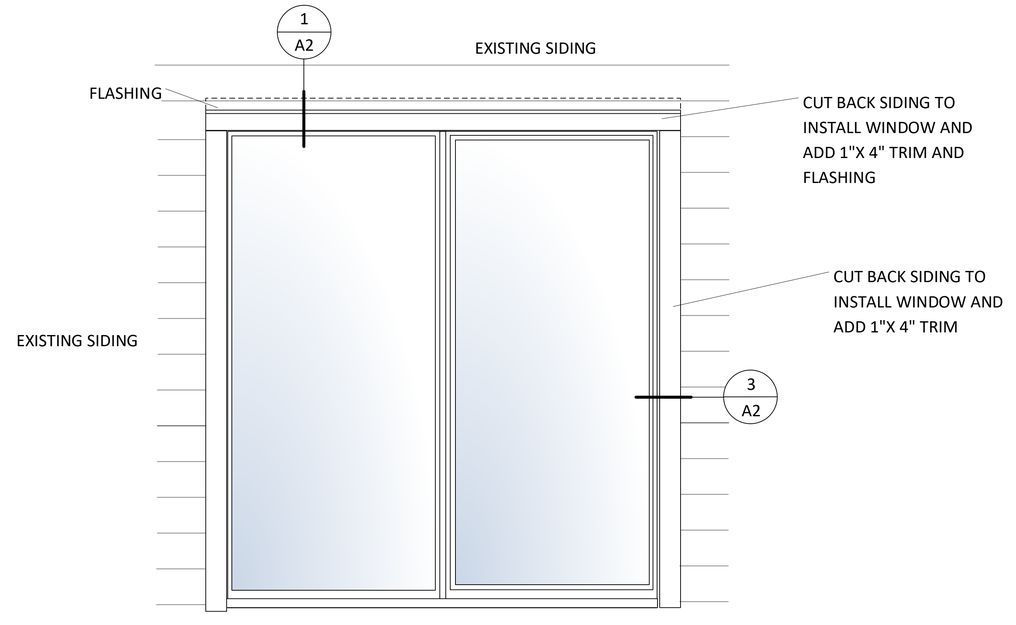
3.5 PAINT

A. Trim shall be primed and painted according to the manufacturer’s instructions to match existing finish.

END OF SECTION 08531



2 **TYPICAL WINDOW TRIM EXCEPT SLIDERS**



1 **SLIDER TRIM**

1

WOODSIDE EAST APARTMENTS

16240 NE 14TH ST, BELLEVUE, WA 98008

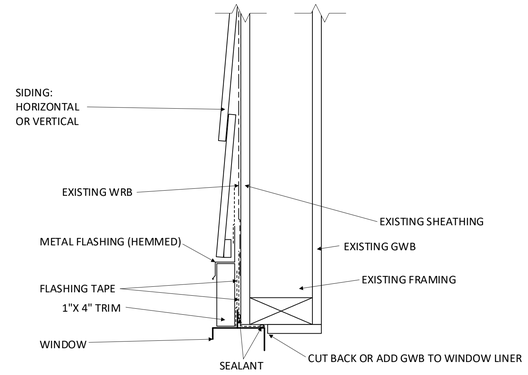
WINDOW REPLACEMENT

Date:

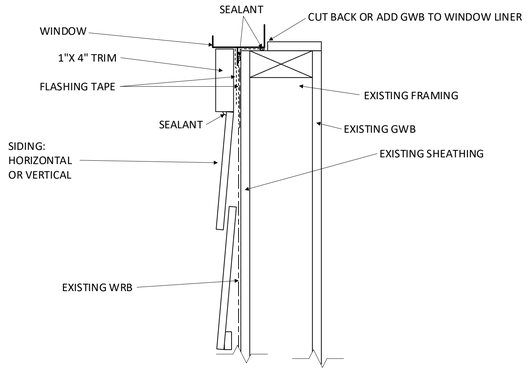
Revisions:
NOV 8, 2019

Drawn:
HUGH WATKINSON

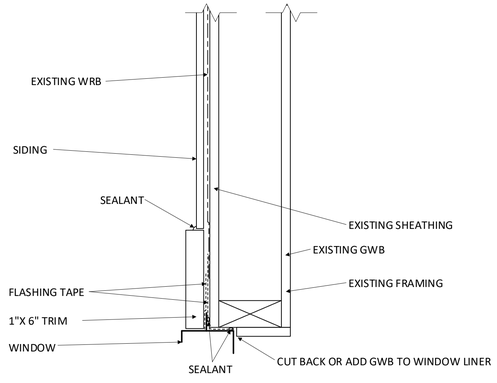
A1 ELEVATIONS



1 TYPICAL WINDOW HEADER



2 TYPICAL WINDOW SILL



3 TYPICAL WINDOW JAMB

WOODSIDE EAST APARTMENTS

16240 NE 14TH ST, BELLEVUE, WA 98008

WINDOW REPLACEMENT

Date:

Revisions:
NOV 8, 2019

Drawn:
HUGH WATKINSON

A2 DETAILS

INSTRUCTIONS TO BIDDERS

1.0 BIDDER RESPONSIBILITY CRITERIA

A. It is the intent of Owner to award a contract to a responsible bidder submitting the lowest responsive bid. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the Owner to submit documentation demonstrating compliance with the criteria. The bidder must:

1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, have industrial insurance coverage for the bidder's employees working in Washington as required in Title 51 RCW; an employment security department number as required in Title 50 RCW; and a state excise tax registration number as required in Title 82 RCW;
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3);
5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW;
7. Before award of a public works contract, a bidder shall submit to the contracting agency a signed statement in accordance with RCW 9A.72.085 verifying under penalty of perjury that the bidder is in compliance with the responsible bidder criteria requirement of subsection A, 6 of this section.

1.1 SUBCONTRACTOR RESPONSIBILITY

A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.

B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:

1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;
2. Have a current Washington Unified Business Identifier (UBI) number;
3. If applicable, have:

    a. Have Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW;
    b. A Washington Employment Security Department number, as required in Title 50 RCW;

c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
d. An electrical contractor license, if required by Chapter 19.28 RCW;
e. An elevator contractor license, if required by Chapter 70.87 RCW.

4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3);
5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

1.2 SUPPLEMENTAL BIDDER RESPONSIBILITY CRITERIA

A. RCW 39.04.350(2) specifically authorizes municipalities to adopt relevant supplement criteria for determining bidder responsibility applicable to a particular project which the bidder must meet.

B. For the work in this project a responsible/qualified Bidder must meet the following standards:

1. Have a current certificate of registration as a contractor, in compliance with chapter 18.27 RCW, for the last three years under the same business name;
2. Have a good record of past performance that includes, but is not limited to, high quality work, ability to complete projects on time, contractor's integrity, compliance with public policy, financial, contractual and tax obligations, as well as Federal and State rules and regulations in performing construction contracts.
3. Have a current Experience Modification Rate (EMR) of 1.0 or less, or an average EMR rate of 1.0 or less over the last three years. The requirement may, at the Owner's sole discretion, be waived on review of a written explanation that includes details of accidents, L&I records, a Loss Ratio Report for the last five years, costs, dates of events, and changes that have been made by the contractor to reduce accidents. A current company Safety Plan shall also be reviewed.
4. Bidder shall provide evidence of previous successful completion of window replacement projects of similar scope and complexity. Poor performance, lack or response, or failure to complete projects successfully within the contract time may be grounds for the rejection of bidder.

C. Subcontractors shall have had three years minimum experience licensed in Washington State in the specific specialty contracting business.

1.3 PREPARATION OF BIDS – CONSTRUCTION

A. Bids must be submitted on the Bid Form furnished by the Owner.

B. All fields and questions on required forms must be fully answered and complete. Failure to do so may result in the bid being declared non-responsive.

C. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.

1. Bidder is responsible for checking KCHA's website for addenda prior to submitting bid.

D. In order for a bid to be considered responsive, bidders must submit the following signed documents with their bid package:

1. Bid Form
2. Bidder's Information Form

E. The Bidder agrees to hold the base bid prices for sixty (60) days from date of bid opening.

1.4 AMENDMENTS TO INVITATION TO BID

A. If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

B. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.

1. Bidder is responsible for checking KCHA's website for addenda prior to the bid due date.
2. Addenda will not be issued later than three (3) calendar days before the deadline for receipt of Bids except Addendum withdrawing the request for Bids or extending the deadline for receipt of Bids.

1.5 PRE-BID MEETING

A. All potential bidders are strongly encouraged to attend. Oral statements may not be relied upon and will not be binding or legally effective.

1.6 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

A. Before submitting a bid, the Bidder shall carefully examine each component of the Contract Documents prepared for the Work and any other available supporting data so as to be thoroughly familiar with all the requirements.

B. The Bidder shall obtain copies of all agencies and associations guidelines and standards cited in the Contract Documents and necessary to perform the Work, including full size reproductions of material provided by Owner, at their own expense.

C. The Bidder shall make a thorough and reasonable examination of the project site, facility and conditions under which the Work is to be performed, including but not limited to: Building access; resident occupancy; fire lanes; landscaping; obstacles and character of materials which may be encountered; traffic conditions; public and private utilities; the availability and cost of labor; and available facilities for transportation, handling, and storage of materials and equipment.

1.7 EXPLANATION TO PROSPECTIVE BIDDERS

A. Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must submit a request in writing to the Owner seven (7) calendar days before the bid due date. Oral explanations or instructions given before the award of a contract will not be binding. Questions shall be submitted to:

Michelle Jackson
King County Housing Authority
600 Andover Park W
Seattle, WA 98188
Email: michellej@kcha.org

1.8 PREVAILING WAGES

A. Contractor shall pay no less than the Washington State Department of Labor and Industries (L&I) prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of L&I. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of L&I. It is the Contractor's responsibility to verify the applicable prevailing wage rate.

1. L&I prevailing wage rates may be found at https://fortress.wa.gov/lni/wagelookup/prvWagelookup.aspx
2. The Owner has determined that the work meets the definition of residential construction.
3. The prevailing wage rates publication date is determined by the bid due date.
4. The work is to be performed in King County.
5. A copy of the prevailing wage rates is available at KCHA.
6. A copy of the prevailing wage rates may be mailed on request.

1.9 TAXES

A. All taxes imposed by law shall be included in the bid amount. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.

B. The retail sales tax does not apply to the gross contract price as indicated in WAC 458-20-17001.

C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

1.10 ASSURANCE OF COMPLETION

A. Payment and performance bonds for 100% of the Contract Sum, including all Change Orders and taxes imposed by law, shall be furnished for the Work, and shall be in a form acceptable to the Owner.

1. On contracts of one hundred fifty thousand dollars ($150,000.00) or less, the requirement for a Performance and Payment Bond may, at Contractors option, be waived in lieu of an additional 5% (total 10%) retainage.

1.11 BID ERROR

A. In the event Bidder discovers an error in its bid, the Bidder may, under certain conditions and if before the date and time that bids are due, modify, their bid, as detailed below:

1. Prior to Date and Time Bids are Due:

a. A Bidder may withdraw its bid at any time prior to the date and time bids are due upon written request.
b. After withdrawing an original submitted bid, a Bidder may modify and resubmit its bid at any time prior to the date and time bids are due.

2. After the Date and Time Bids are Due:

a. A bidder who submits an erroneous low bid may withdraw the bid. The bid withdrawal is permissible if there was an obvious error in the low bid, and the mistake is readily apparent from the bid itself.
b. Notification: Provide to the Owner, within 24 hours of bid opening, written notification of the bidder's intent to withdraw the bid due to error.
c. Documentation: Provide to the Owner within 48 hours of bid opening, documentation sufficient in content to justify bid withdrawal to the satisfaction of the Owner. Include description and evidence of the error.
d. Approval: the Owner will approve or reject the request for withdrawal in writing.
e. Any low bidder who withdraws its bid is prohibited from bidding on the same project if it is subsequently re-solicited.

1.12 ADDITIVE OR DEDUCTIVE BID ITEMS

A. The low bid, for purposes of award, shall be the lowest responsive bid from a qualified responsible bidder offering the low aggregate amount for the base bid, plus additive or deductive bid alternates selected by the Owner.

1.13 BID EVALUATION

A. Responsive Bids: A bid will be considered responsive if it meets the conditions of the solicitation, in addition to but not limited to the following requirements:

1. Bid is received not later than the time and date specified.
2. Bid is submitted in the proper format on the form(s) provided.
3. Bid includes the complete scope of work as defined in bid package.
4. Bid does not include any exclusions or qualifications.
5. Bid includes Unit and Lump Sum Costs as listed in Proposal Form.
6. Forms are complete.

B. After bid opening, bids will be checked for correctness of bid item price extensions and the total bid price. A discrepancy between a bid item price and the extended amount of any bid item shall be resolved by accepting the bid item price as correct.

C. Responsible Bidders: the Owner will award contracts only to responsible bidders who demonstrate the ability to successfully perform under the terms and conditions as set forth in the Contract Documents and have successfully completed projects similar in scope and complexity.

1. Bidders must demonstrate relevant experience on similar types of projects and submit detailed information as required on the Bidder Information Form.

D. The Owner reserves the right to contact references and investigate past performance and qualifications of the Bidder, subcontractor, and project team members, including contacting third parties and/or the references provided by the Bidder.

1. The Owner may contact references for other projects including those the Bidder did not identify and/or provided references.
2. References may be asked to rate the performance of and describe their experience with project team members and subcontractors. Bidder Information may be solicited and evaluated on the following subjects: type and features of work; overall quality of project performance and quality of work; experience and technical knowledge and competence of the Bidder and Project Team Members; ability, capacity and skill to perform the Work; ability to manage submittals, requests for information, prevailing wage filings, and other paperwork; compliance with laws, ordinances, and contract provisions; and other information as deemed necessary.
3. Poor reference(s) may be justification to determine a Bidder is not responsible.

E. At the Owner's request, provide any additional explanation or information, which would assist in evaluating the qualifications of the Bidder, subcontractors, project team members, and bid price.

F. The Owner will verify information submitted and if the lowest bidder is determined to be "not responsible," the Owner will issue, in writing, the specific reasons for this determination. The bidder may appeal this decision. The appeal must be in writing and shall be delivered to the Owner within two business days. The appeal may include additional information that was not included in the original bid documents. KCHA will make a final determination after the receipt of the appeal. The final determination may not be appealed.

1.14 CONTRACT AWARD

A. Bonding and Insurance: Contract award will be contingent on ability to secure payment/performance bonding, and Contractor's ability to meet the Owner insurance requirements as detailed in the Bid Documents.

B. Bonding, insurance certificates and endorsements, and an approved Statement of Intent to Pay Prevailing Wages shall be submitted to the Owner within 14 days of award. A Notice to Proceed shall be issued immediately after receipt.

C. Right to Reject Bids/Waiver: The Owner reserves the right to reject any or all bids or to waive any informalities or irregularities in the bidding.

D. Retainage Funds: The Owner will not pay interest to the Contractor for accounts where retainage funds are maintained by the Owner. As part of the procurement by which the Contractor was selected for this work, the Contractor agrees to waive any other options and has made allowances for this waiver.

GENERAL CONDITIONS

PART 1 - GENERAL PROVISIONS

1.1 DEFINITIONS

A. “Authority Having Jurisdiction (AHJ)”: A federal, state, local, or other regional department, or an individual such as a fire official, labor department, health department, building official, or other individual having statutory authority.

B. "Contract Documents" means the Instructions to Bidders, Specifications, Plans, General Conditions, Prevailing Wage Rates, Bid Form, Contract Form, other Special Forms, Drawings and Specifications, and all Addenda and modifications thereof.

C. "Contract Sum" is the total amount payable by Owner to Contractor for performance of the Work in accordance with the Contract Documents.

D. "Contract Time" is the number of consecutive Days allotted in the Contract Documents for achieving completion of the Work.

E. "Contracting Officer" means the person delegated the authority by King County Housing Authority to enter into, and/or terminate this Contract. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer.

F. "Contractor" means the person or other entity entering into the Contract with King County Housing Authority to perform all of the services or work required under the Contract.

G. "Day" means calendar day, unless otherwise specified.

H. "Final Acceptance" means the acceptance by Owner that the Contractor has completed the requirements of the Contract Documents.

I. “Force Majeure” means those acts entitling Contractor to request an equitable adjustment in the Contract Time, including, but not limited to, unusually severe weather conditions which could not have been reasonably anticipated.

J. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

K. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

L. “Liquidated Damages” means the amount prescribed in the Contract Documents to be deducted from any payments due or to become due Contractor, for each day's delay in completion of the Work beyond the time allowed in the Contract Documents as stated in the Notice to Proceed, plus any extensions of such time.

M. “Manager” means the person who is an authorized agent of the King County Housing Authority to administer the Contract.

N. "Notice to Proceed" means a notice from Owner to Contractor that defines the date on which the Contract Time begins to run.

O. "Owner" means the King County Housing Authority or its authorized representative with the authority to enter into, administer, and/or terminate the Work in accordance with the Contract Documents and make related determinations and findings.

P. “Property Manager” means the property management company, its officers and employees.

Q. "Provide": Furnish and install, complete and ready for the intended use.

R. "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a Subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime Contract or a subcontract.

S. "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another Subcontractor.

T. "Work" means the construction and services required by the Contract Documents, and includes, but is not limited to, labor, materials, supplies, equipment, services, permits, and the manufacture and fabrication of components, performed, furnished, or provided in accordance with the Contract Documents.

1.2 EXECUTION AND INTENT

A. The intent of the Specifications and Drawings is to describe a complete Project to be constructed in accordance with the Contract Documents. Contractor shall furnish all labor, materials, equipment, tools, transportation, permits, and supplies, and perform the Work required in accordance with the Contract Documents.

B. All work is to be executed in accordance with the Building Codes, as adopted by the Authority Having Jurisdiction, and other applicable codes and generally accepted industry standards. All products and materials are to be new and handled and applied in accordance with the manufacturer's recommendations.

C. Contractor makes the following representations to Owner:

1. The Contract Sum is reasonable compensation for the Work and the Contract Time is adequate for the performance of the Work, as represented by the Contract Documents;
2. Contractor has carefully reviewed the Contract Documents, had an opportunity to visit and examine the Project site, has become familiar with the local conditions in which the Work is to be performed, and has satisfied itself as to the nature, location, character, quality and quantity of the Work, the labor, materials, equipment, goods, supplies, work, permits, services and other items to be furnished and all other requirements of the Contract Documents, as well as the surface and subsurface conditions and other matters that may be encountered at the Project site or affect performance of the Work or the cost or difficulty thereof.

D. The Contract Documents are complementary. What is required by one part of the Contract Documents shall be binding as if required by all. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both.

PART 2 - INSURANCE AND BONDS

2.1 INSURANCE REQUIREMENTS FOR BUILDING TRADES CONTRACTORS

A. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or Subcontractors.

2.2 MINIMUM SCOPE OF INSURANCE

A. Contractors shall maintain coverages no less than:

1. Insurance Services Office Commercial General Liability coverage including Products/Completed Operations.
2. Insurance Services Office covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by State law and Employer's Liability Insurance.

2.3 MINIMUM LIMITS OF INSURANCE

A. Contractor shall maintain limits no less than:

1. General Liability: $1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit of $2,000,000.
2. Automobile Liability: $1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: $1,000,000 per accident for bodily injury/sickness or disease.

2.4 DEDUCTIBLES AND SELF INSURED RETENTION

A. Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Owner guaranteeing payment of losses and related investigations, claim administration and defense expenses. **NOTE: If this contract deals with hazardous materials or activities (i.e. lead based paint, asbestos, armed security guards) additional provisions covering those exposures must be included in order to protect the Owner's interests.**

2.5 OTHER INSURANCE PROVISIONS

A. The policies are to contain, or be endorsed to contain, the following provisions:

1. The Owner, the Property Manager, its officers, officials, employees, partners, agents and volunteers are to be covered as additional insureds under a "completed operations" type of additional insured endorsement with respect to general liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. The endorsement(s) effectuating the foregoing additional insured coverage shall be ISO form CG 20 10 11 85, or CG 20 10 10 01 issued concurrently with CG 20 37 10 01, or their equivalent as long as it provides additional insured coverage, without limitation, for completed operations; (ii) automobile liability arising out of vehicles owned, leased, hired, or borrowed by or on behalf of the Contractor; (iii) any insurance written on a claims made basis, shall have a retroactive date that coincides with, or precede, the commencement of any work under this contract. Evidence of such coverage shall be maintained for a minimum of six (_6_) years beyond the expiration of the project.
2. King County will not accept Certificates of Insurance Alone. Improperly Completed Endorsements will be returned to your insured for correction by an authorized representative of the insurance company.
3. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Owner, its officers, officials, agents, partners, employees, and volunteers. Any insurance or self-insurance maintained or expired by the Owner, its officers, officials, agents, partners, employees, volunteers, or shall be excess of the Contractor's insurance and shall not contribute with it. King County Housing Authority's Insurance is Non-Contributory in Claims Settlement Funding.
4. The "General description of agreement(s) and/or activity(s) insured" shall include reference to the activity and/or to either specific King County Housing Authority's; project of site name, contract number, lease number, permit number or construction approval number.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled or materially changed, except after thirty (30) days' [ten (10) days for non-payment of premium] prior written notice by certified mail, return receipt requested, has been given to the Owner.
6. Maintenance of the proper insurance for the duration of the contract is a material element of the contract. Material changes in the required coverage or cancellation of the coverage shall constitute a material breach of the contract.

2.6 ACCEPTABILITY OF INSURERS

A. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-:VII. The name of the Insurance Company underwriting the coverage and its address shall be noted on the endorsement form. Contractors must provide written verification of their insurer's rating.

2.7 VERIFICATION OF COVERAGE

A. Contractor shall furnish the Owner with original certificates and amendatory endorsements effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Owner before work commences in sufficient time to permit contractor to remedy any deficiencies. The Owner reserves the right to require complete, certified copies of all required insurance policies or pertinent parts thereof, including endorsements affecting the coverage required by these specifications at any time.

2.8 SUBCONTRACTORS

A. Subcontractors shall include the Contractor as additional insured under their policies. All coverage's for subcontractors shall be subject to all of the requirements stated herein. Contractor shall be responsible for the adequacy of required coverages for subcontractors, and compile related certificates of insurance and endorsements evidencing subcontractors' compliance.

2.9 PAYMENT AND PERFORMANCE BONDS

A. Payment and performance bonds for 100% of the Contract Award Amount shall be furnished for the Work, using the Payment Bond and Performance Bond form AIA – form A312. Change order increases of cumulative 15% increments require revisions to the bond to match the new Contract Sum.

B. On contracts of one hundred fifty thousand dollars or less, at the option of the contractor as defined in RCW 39.10.210, the Owner may, in lieu of the bond, retain ten percent of the contract amount for a period of forty-five days after date of final acceptance, or until receipt of all necessary releases from the department of revenue, the employment security department, and the department of labor and industries and settlement of any liens filed under chapter 60.28 RCW, whichever is later.

PART 3 - PERFORMANCE

3.1 CONTRACTOR CONTROL AND SUPERVISION

A. Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work, and shall be responsible to Owner for acts and omissions of Contractor, Subcontractors, and their employees and agents.

B. Contractor shall enforce strict discipline and good order among Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Owner may, by Notice, request Contractor to remove from the Work or Project site any employee Owner reasonably deems incompetent, careless, or otherwise objectionable.

C. The Contractor shall perform on the site, and with its own organization, work equivalent to at least 12% of the total amount of work to be performed under the contract.

D. Work Hours: The Contractor's allowable hours of operation shall be limited to those hours between 8:00 A.M. and 6:00 P.M. Monday to Friday excluding public holidays.

3.2 PERMITS, FEES, AND NOTICES

A. Unless otherwise provided in the Contract Documents, Contractor shall pay for and obtain all permits, licenses, and coordinate inspections necessary for proper execution and completion of the Work. Prior to final payment, the approved, signed permits shall be delivered to Owner.

3.3 PREVAILING WAGES

A. Statutes of the State of Washington RCW 39.12 as amended shall apply to this contract. Requirements, in brief, are stated below:

1. There shall be paid each laborer or mechanic of the Contractor or sub-Contractor engaged in work on the project under this contract in the trade or occupation listed in the schedule of Wage Rates, as determined by the Department of Labor and Industries, not less than the hourly wage rate listed therein, regardless of any contractual relationship which may be alleged to exist between the Contractor and any sub-contractor and such laborers and mechanics.
2. The "prevailing rate or wage" contained in the wage determination include health and welfare fund contributions and other fringe benefits collectively bargained for by the various management and labor organizations. Prevailing wages shall be paid based on the most recent semi-annual list as required by the Department of Labor and Industries (L&I).
3. In case any dispute arises as to what are the prevailing rates for wages of work of a similar nature, and such disputes cannot be resolved by the parties involved, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries of the State of Washington, and the Director's decision shall be final and conclusive and binding on all parties involved in the dispute.

B. Before commencing the Work, Contractor shall file a statement of "Intent to Pay Prevailing Wages."

C. After completion of the Work, Contractor shall file an "Affidavit of Wages Paid."

3.4 EQUAL EMPLOYMENT OPPORTUNITY

A. During performance of the Work:

1. Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, marital status, the presence of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status or political affiliation, nor commit any unfair practices as defined in RCW 49.60.
2. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status, or political affiliation.
3. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders in regard to Equal Employment Opportunity including but not limited to Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and the rules, regulations, and orders of the Secretary of Labor. The Contractor shall include the terms of this Clause in every subcontract so that such term shall be binding on each Subcontractor.
4. Non-Discrimination R.C.W. 49.60: These special requirements establish minimum requirements for affirmative action and are intended to define and implement the basic discrimination provisions of these specifications. Failure to comply with these requirements may constitute grounds for application of contract default.

3.5 SAFETY PRECAUTIONS

A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:

1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by Chapter 19.27 RCW, State Building Code (Uniform Building, Electrical, Mechanical, Fire, and Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, Chapter 49.17 RCW, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, WAC 296-24, General Safety and Health Standards, Chapter 49.70 RCW, and Right to Know Act.

3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner to prescribe safety conditions relating to employees, public, or agents of the Contractors.

B. Contractor to maintain safety records: Contractor shall maintain an accurate record of exposure data on all incidents relating to the Work resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. Contractor shall immediately report any such incident to Owner. Owner shall, at all times, have a right of access to all records of exposure.

C. Contractor to provide HazMat training: Contractor shall provide all persons working on the Project site with information and training on hazardous chemicals in their work at the time of their initial assignment, and whenever a new hazard is introduced into their work area.

1. Information. At a minimum, Contractor shall inform persons working on the Project site of:

   a. WAC: The requirements of chapter 296-62 WAC, General Occupational Health Standards;
   b. Presence of hazardous chemicals: Any operations in their work area where hazardous chemicals are present; and
   c. Hazard communications program: The location and availability of written hazard communication programs, including the required list(s) of hazardous chemicals and material safety data sheets required by chapter 296-62 WAC.

2. Training. At a minimum, Contractor shall provide training for persons working on the Project site which includes:

   a. Detecting hazardous chemicals: Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
   b. Hazards of chemicals: The physical and health hazards of the chemicals in the work area;
   c. Protection from hazards: The measures such persons can take to protect themselves from these hazards, including specific procedures Contractor, or its Subcontractors, or others have implemented to protect those on the Project site from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and
   d. Hazard communications program: The details of the hazard communications program developed by Contractor, or its Subcontractors, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.

D. Hazardous, toxic or harmful substances: Contractor's responsibility for hazardous, toxic, or harmful substances shall include the following duties:

1. Illegal use of dangerous substances: Contractor shall not keep, use, dispose, transport, generate, or sell on or about the Project site, any substances now or hereafter designated as, or which are subject to regulation as, hazardous, toxic, dangerous, or harmful by any federal, state or local law, regulation, statute or ordinance (hereinafter collectively referred to as "hazardous substances"), in violation of any such law, regulation, statute, or ordinance, but in no case shall any such hazardous substance be stored on the Project site.
2. Contractor notifications of spills, failures, inspections, and fines: Contractor shall promptly notify Owner of all spills or releases of any hazardous substances which are otherwise required to be reported to any regulatory agency and pay the cost of cleanup. Contractor shall promptly notify Owner of all failures to comply with any federal, state, or local law, regulation, or ordinance; all inspections of the Project site by any regulatory entity concerning the same; all regulatory orders or fines; and all responses or interim cleanup actions taken by or proposed to be taken by any government entity or private party on the Project site.

E. Public safety and traffic: All Work shall be performed with due regard for the safety of the public. Contractor shall perform the Work so as to cause a minimum of interruption of vehicular traffic or inconvenience to pedestrians. All arrangements to care for such traffic shall be Contractor's responsibilities. All expenses involved in the maintenance of traffic by way of detours shall be borne by Contractor.

F. Contractor to act in an emergency: In an emergency affecting the safety of life or the Work or of adjoining property, Contractor is permitted to act, at its discretion, to prevent such threatened loss or injury, and Contractor shall so act if so authorized or instructed.

G. No duty of safety by Owner: Nothing provided in this section shall be construed as imposing any duty upon Owner with regard to, or as constituting any express or implied assumption of control or responsibility over, Project site safety, or over any other safety conditions relating to employees or agents of Contractor or any of its Subcontractors, or the public.

3.6 INDEPENDENT CONTRACTOR

A. The Contractor and Owner agree the Contractor is an independent contractor with respect to the services provided pursuant to this Contract. Nothing in this Contract shall be considered to create a relationship of employer and employee between the parties hereto. Neither the Contractor nor any employee of the Contractor shall be entitled to any benefits accorded Owner employees by virtue of the services provided under this Contract. The Owner shall not be responsible for withholding or otherwise deducting federal income tax or social security or contributing to the State Industrial Insurance Program, or otherwise assuming the duties of an employer with respect to the Contractor, or any employees of the Contractor.

3.7 OPERATIONS, MATERIAL HANDLING, AND STORAGE AREAS

A. Contractor shall confine all operations, including storage of materials, to Owner-approved areas.

B. Contractor shall be responsible for the proper care and protection of its materials and equipment delivered to the Project site.

C. Contractor shall protect and be responsible for any damage or loss to the Work, or to the materials or equipment until the date of Final Acceptance, and shall repair or replace without cost to Owner any damage or loss that may occur.

3.8 PRIOR NOTICE OF EXCAVATION

A. Prior to any excavation Contractor shall engage a locate service for all underground facilities or utilities. Contractor shall pay all fees for locator services and pay for all damages caused by excavation.

3.9 UNFORESEEN PHYSICAL CONDITIONS

A. Notice requirement for concealed or unknown conditions: If Contractor encounters conditions at the site which are subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Contractor shall give written notice to Owner promptly and in no event later than seven Days after the first observance of the conditions. Conditions shall not be disturbed prior to such notice.

B. Adjustment in Contract Time and Contract Sum: If such conditions differ materially and cause a change in Contractor's cost of, or time required for, performance of any part of the Work, the Contractor may be entitled to an equitable adjustment in the Contract Time or Contract Sum, or both, provided it makes a request therefore as provided in Part 5.

3.10 PROTECTION OF EXISTING STRUCTURES, EQUIPMENT, VEGETATION, UTILITIES, AND IMPROVEMENTS

A. Contractor shall protect from damage all existing conditions, including soils, structures, equipment, improvements, utilities, and vegetation at or near the Project site; and on adjacent property of a third party, the locations of which are made known to or should be known by Contractor. Contractor shall repair any damage, including that to the property of a third party, resulting from failure to comply with the requirements of the Contract Documents, any defects of equipment, material, workmanship or design furnished by the Contractor, or failure by Contractor or subcontractor at any tier to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly, Owner may have the necessary work performed and charge the cost to Contractor.

B. New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the Specifications.

3.11 MATERIAL AND EQUIPMENT

A. All equipment, material, and articles incorporated into the Work shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in the Contract Documents. References in the Specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard quality and shall not be construed as limiting competition. Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of Owner, is equal to that named in the Specifications, unless otherwise specifically provided in the Contract Documents.

B. Substitutions shall be considered where qualities and attributes including, but not limited to, cost, performance, weight, size, durability, visual effect, and specific features and requirements indicated are deemed equal or better by the Owner at the Owner's sole discretion. All requests for substitutions shall be made in writing to Owner and shall not be deemed to be approved unless approved in writing by Owner.

3.12 CORRECTION OF NONCONFORMING WORK

A. Contractor shall promptly correct Work found by Owner not to conform to the requirements of the Contract Documents, whether observed before or after Final Acceptance.

B. If Contractor fails to correct nonconforming Work, Owner may replace, correct, or remove the nonconforming Work and charge the cost thereof to the Contractor.

3.13 CLEAN UP

A. Contractor shall at all times keep the Project site, including hauling routes, infrastructures, utilities, and storage areas, free from accumulations of waste materials. Before completing the Work, Contractor shall remove from the premises its rubbish, tools, scaffolding, equipment, and materials. Upon completing the Work, Contractor shall leave the Project site in a clean, neat, and orderly condition satisfactory to Owner. If Contractor fails to clean up as provided herein, and after reasonable notice from Owner, Owner may do so and the cost thereof shall be charged to Contractor.

3.14 SUBCONTRACTORS AND SUPPLIERS

A. Contractor shall utilize Subcontractors and suppliers which are experienced and qualified.

B. By appropriate written agreement, Contractor shall require each Subcontractor to be bound to Contractor by terms of those Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor assumes toward Owner in accordance with the Contract Documents. Each Subcontract shall preserve and protect the rights of Owner in accordance with the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. However, nothing in this paragraph shall be construed to alter the contractual relations between Contractor and its Subcontractors with respect to insurance or bonds.

C. Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors. No Subcontracting of any of the Work shall relieve Contractor from its responsibility for the performance of the Work in accordance with the Contract Documents or any other obligations of the Contract Documents.

D. It is the Contractor's responsibility to pay its Subcontractors and material suppliers on a timely basis. The Owner reserves the right to withhold a portion of the Contractor's payment if the Contractor fails to make timely payments to the Subcontractors and material suppliers.

E. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and any Subcontractor; or any persons other than Owner and Contractor.

F. The Contractor shall not enter into any subcontract with any subcontractor who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or by any state, territory, or municipality.

3.15 INDEMNIFICATION

A. The Contractor hereby agrees to indemnify, defend, and hold harmless the Authority, its successors and assigns, director, officers, officials, employees, agents, partners and volunteers (all foregoing singly and collectively (Indemnities") from a and against any and all claims, losses, harm costs, liabilities, damages and expenses, including, but not limited to, reasonable attorney's fees arising or resulting from the performance of the services, or the acts or omissions of the Contractor its successors, and assigns, employees, subcontractors or anyone acting on the contractor's behalf in connection with this Contract or its performance of this Contract.

B. Provided, however, that the Contractor will not be required to indemnify, defend, or save harmless the indemnitee as provided in the preceding paragraphs of this section if the claim, suit, or action for injuries, death, or damages is caused by the sole negligence of the indemnitee. Where such claims, suites, or actions result from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the Contractor or the Contractor's agent or employee, the indemnity provisions provided in the proceeding paragraphs of this section shall be valid and enforceable only to the extent of the Contractor's negligence or the negligence of its agents and employees..

C. The foregoing indemnity is specifically and expressly intended to constitute a waiver of the Contractor's immunity under Washington's Industrial Insurance act, RCW Title 51. The parties acknowledge that these provisions were specifically negotiated and agreed upon by them. If any portion of this indemnity clause is invalid or unenforceable, it shall be deemed excised and the remaining portions of the clause shall be given full force and effect.

D. The Contractor hereby agrees to require all its Subcontractors or anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this Contract to execute an indemnity clause identical to the preceding clause, specifically naming the Owner as indemnity, and failure to do so shall constitute a material breach of this Contract by the Contractor.

3.16 PROHIBITION AGAINST LIENS

A. The Contractor is prohibited from placing a lien on the Owner's property. This prohibition shall apply to all subcontractors of any tier and all materials suppliers, in accordance with RCW 35.82.190.

3.17 DAMAGES FOR FAILURE TO ACHIEVE TIMELY COMPLETION

A. Liquidated Damages

1. Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. The liquidated damage amounts set forth will be assessed not as a penalty, but as liquidated damages for breach of the Contract Documents. This amount is fixed and agreed upon by and between the Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain. This amount shall be construed as the actual amount of damages sustained by the Owner, and may be retained by the Owner and deducted from any payments to the Contractor.
2. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed.

3.18 WAIVER AND SEVERABILITY

A. The failure or delay of either party to insist on performance of any provision of the Contract, or to exercise any right or remedy available under the Contract, shall not be construed as a waiver of that provision, right, or remedy in any later instance. Waiver or breach of any provision of the Contract shall not be construed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of the Contract, unless the Contract is modified pursuant to the Clause entitled "Contract Modifications" herein.

B. If any provision of the Contract is or becomes void or unenforceable by operation of law, the remaining provisions shall be valid and enforceable.

PART 4 - PAYMENTS AND COMPLETION

4.1 CONTRACT SUM

A. The Contract Sum shall include all taxes imposed by law and properly chargeable to the Project, including sales tax. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.

B. The retail sales tax does not apply to the gross contract price.

C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

4.2 APPLICATION FOR PAYMENT

A. At monthly intervals, unless determined otherwise by Owner, Contractor shall submit to Owner an Application for Payment for Work completed in accordance with the Contract Documents. Each application shall be supported by such substantiating data as Owner may require.

B. Each invoice shall include the following statement: "I hereby certify that the items listed are proper charges for materials, merchandise or services provided to the King County Housing Authority, and that all goods and/or services have been provided; that prevailing wages have been paid in accordance with the approved statements of intent filed with the Department of Labor and Industries; and that sub-contractors and/or suppliers have been paid, less earned retainage, as their interest appears in the last payment received."

C. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. Each Application for Payment shall be consistent with previous applications and payments.

D. Owner shall retain 5% of the amount of each progress payment until 45 Days after Final Acceptance and receipt of all documents required by law or the Contract Documents including releases by Washington State Employment Security Department and Washington State Department of Revenue and Department of Labor & Industries.

E. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity who is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.

    a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

F. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

G. Approved payments shall be mailed to the Contractor within 30 days.

4.3 FINAL COMPLETION, ACCEPTANCE, AND PAYMENT

A. The Owner shall make a final inspection of the Work on receipt of (1) written notice from the Contractor that the Work is ready for final inspection and (2) a final Application for Payment. When the Owner finds the Work acceptable and fully performed under the Contract Documents, and the Contractor has delivered to the Owner all warranties, permits, and operations manuals, the Owner will issue a Notice of Final Completion.

B. Acceptance of final payment by Contractor, or any Subcontractor, shall constitute a waiver and release to Owner of all claims by Contractor, or any such Subcontractor, for an increase in the Contract Sum or the Contract Time, and for every act or omission of Owner relating to or arising out of the Work, except for those Claims made in accordance with the procedures, including the time limits, set forth in PART 7 - .

PART 5 - CHANGES

5.1 CHANGE IN THE WORK

A. Owner may, at any time and without notice to Contractor's surety, order additions, deletions, revisions, or other changes in the Work. These changes in the Work shall be incorporated into the Contract Documents through the execution of Change Orders. If any change in the Work ordered by Owner causes an increase or decrease in the Contract Sum or the Contract Time, an equitable adjustment shall be made as provided in 5.2 and 5.3.

B. Pending agreement on the terms of the Change Order, Owner may direct Contractor to proceed immediately with the Change Order Work. Contractor shall not proceed with any change in the Work until it has obtained Owner's written approval.

C. The Contractor agrees that any change in the Contract Amount or Contract Time provided in a Change Order is full and complete compensation to the Contractor for the change(s) to the work, deleted work, modified work, direct or indirect impact on the Contractor's schedule, and for any equitable adjustment or time extension to which the Contractor may be entitled to in the Change Order, pursuant to the Contract between the Owner and Contractor.

5.2 CHANGE IN THE CONTRACT SUM

A. Change Order Pricing - Fixed Price: When the fixed price or time and materials method is used to determine the value of any Work covered by a Change Order, or of a request for an equitable adjustment in the Contract Sum, the following procedures shall apply:

1. Contractor's Change Order proposal, or request for adjustment in the Contract Sum, shall be accompanied by a complete itemization of the costs, including labor, material, subcontractor costs, and overhead and profit. The costs shall be itemized in the manner set forth below, and shall be submitted on breakdown sheets with documentation in a form approved by Owner.
2. Any request for adjustment of Contract Sum shall include only the following items:

    a. Craft labor costs for Contractors and Subcontractors.

        1) Basic wages and benefits: Hourly rates and benefits according to applicable prevailing wages.
        2) Direct supervision shall not to exceed 15% of the cost of direct labor. No supervision markup shall be allowed for a working supervisor's hours.
        3) Worker’s Insurance. Direct contributions to the State for industrial insurance, medical aid, and supplemental pension by the class and rates established by L&I.
        4) Federal Insurance. Direct contributions required by the Federal Insurance Compensation Act; Federal Unemployment Tax Act; and the State Unemployment Compensation Act.
        5) Safety and small tools: 4% of the sum of the amounts calculated in (1), (2), and (3) above.

    b. Material Costs: Material costs and applicable sales tax shall be developed from actual known costs, supplier quotations or standard industry pricing guides and shall consider all available discounts. Freight costs, express charges, or special delivery charges shall be itemized.

c. Equipment Costs: Itemization of the type of equipment and the estimated or actual length of time the equipment appropriate for the Work is or will be used on the change in the Work. Costs will be allowed for equipment and applicable sales tax only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. The Date Quest Rental Rate (Blue Book) shall be used as a basis for establishing rental rates of equipment not listed in the above sources. The maximum rate for standby equipment shall not exceed 50% of the applicable rate.

d. Allowance for Overhead: This allowance shall compensate Contractor for all noncraft labor, temporary construction facilities, field engineering, schedule updating, as-built drawings, home office cost, B&O taxes, office engineering, estimating costs, additional overhead because of extended time and any other cost incidental to the change in the Work. This allowance shall be strictly limited in all cases an amount not to exceed the following:

1) For Contractor, for any Work actually performed by Contractor's own forces, 16% of the cost.
2) For each Subcontractor (including lower tier subcontractors), for any Work actually performed by its own forces, 16% of the cost.
3) For Contractor, for any Work performed by its Subcontractor(s), 6% of the amount due each Subcontractor.
4) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 5% of the amount due the sub-Subcontractor.

e. Allowance for Profit:

1) For Contractor or Subcontractor of any tier for work performed by their forces, 5% of the cost developed in accordance with subsections a, b & c above.
2) For Contractor or Subcontractor of any tier for work performed by a subcontractor of a lower tier, 5% of the Subcontractor cost.

f. Insurance or Premium: The costs of any change or additional premium of Contractor's liability insurance or bond premium arising directly from the changed Work. The costs of any change in insurance shall be added after overhead and profit are calculated.

B. Change Order Pricing - Unit Prices

1. Work on a unit-price basis as stated in the Specifications and at the price submitted in the Bid Form or as subsequently modified.

a. Unit prices shall include reimbursement for all direct and indirect costs of the Work, including overhead and profit, bond premium, and insurance costs; and
b. Quantities must be supported by field measurement verified by Owner.

5.3 CHANGE IN THE CONTRACT TIME

A. The Contract Time shall only be changed by a Change Order. Contractor shall immediately notify Owner, and shall include any request for a change in the Contract Time in its Change Order proposal.

B. If the time of Contractor's performance is changed due to an act of Force Majeure, Contractor shall request for an equitable adjustment in the Contract Time in writing within 24-hours of the occurrence.

PART 6 - CLAIMS AND DISPUTE RESOLUTION

6.1 CLAIMS PROCEDURE

A. If the parties fail to reach agreement regarding any dispute arising from the Contract Documents, Contractor's only remedy shall be to file a Claim with Owner within 30 Days from Owner's final offer.

B. The Claim shall be deemed to cover all changes in cost and time (including direct, indirect, impact, and consequential) to which Contractor may be entitled. It shall be fully substantiated and documented.

C. After Contractor has submitted a fully-documented Claim, Owner shall respond, in writing, to Contractor with a decision within 30 Days from the date the Claim is received.

D. Contractor shall proceed with performance of the Work pending final resolution of any Claim. Owner's written decision as set forth above shall be final and conclusive as to all matters set forth in the Claim.

E. Any Claim of the Contractor against the Owner for damages, additional compensation, or additional time, shall be conclusively deemed to have been waived by the Contractor unless timely made in accordance with the requirements of this section.

6.2 ARBITRATION

A. If Contractor disagrees with Owner's decision rendered in accordance with paragraph 6.1C, Contractor shall provide Owner with a written demand for arbitration. No demand for arbitration of any such Claim shall be made later than 30 Days after the date of Owner's decision on such Claim; failure to demand arbitration within said 30 Day period shall result in Owner's decision being final and binding upon Contractor and its Subcontractors.

1. Notice of the demand for arbitration shall be filed with the American Arbitration Association (AAA), with a copy provided to Owner. The parties shall negotiate or mediate under the Voluntary Construction Mediation Rules of the AAA, or mutually acceptable service.

B. All Claims arising out of the Work shall be resolved by arbitration. The judgment upon the arbitration award may be entered, or review of the award may occur, in the superior court having jurisdiction thereof. No independent legal action relating to or arising from the Work shall be maintained.

6.3 CLAIMS AUDITS

A. All Claims filed against Owner shall be subject to audit at any time following the filing of the Claim. Failure of Contractor, or Subcontractors of any tier, to maintain and retain sufficient records to allow Owner to verify all or a portion of the Claim or to permit Owner access to the books and records of Contractor, or Subcontractors of any tier, shall constitute a waiver of the Claim and shall bar any recovery.

1. In support of Owner audit of any Claim, Contractor shall promptly make available to Owner all records relating to the Work.

PART 7 - TERMINATION OF THE WORK

7.1 TERMINATION BY OWNER FOR CAUSE

A. Owner may, upon a written Notice to Contractor and to its surety, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for cause upon the occurrence of any one or more of the following events:

1. Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Completion of the Work within the Contract Time;
2. Contractor is adjudged bankrupt, makes a general assignment for the benefit of its creditors, or a receiver is appointed on account of its insolvency;
3. Contractor fails in a material way to replace or correct Work not in conformance with the Contract Documents;
4. Contractor repeatedly fails to supply skilled workers or proper materials or equipment;
5. Contractor repeatedly fails to make prompt payment due to Subcontractors, suppliers, or for labor;
6. Contractor materially disregards or fails to comply with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
7. Contractor is otherwise in material breach of any provision of the Contract Documents.

B. Upon termination, Owner may at its option:

1. Take possession of the Project site and take possession of or use all materials, equipment, tools, and construction equipment and machinery thereon owned by Contractor to maintain the orderly progress of, and to finish, the Work;
2. Finish the Work by whatever other reasonable method it deems expedient.

C. Owner's rights and duties upon termination are subject to the prior rights and duties of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.

D. When Owner terminates the Work in accordance with this section, Contractor shall take the actions set forth in paragraph 7.2B, and shall not be entitled to receive further payment until the Work is accepted.

E. If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including compensation for A/E services and expenses made necessary thereby and any other extra costs or damages incurred by Owner in completing the Work, or as a result of Contractor's actions, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner. Contractor shall also be liable for liquidated damages until such reasonable time as may be required for Completion. These obligations for payment shall survive termination.

F. Termination of the Work in accordance with this section shall not relieve Contractor or its surety of any responsibilities for Work performed.

G. If Owner terminates Contractor for cause, and it is later determined that none of the circumstances set forth in 7.1A exist, then such termination shall be deemed a termination for convenience pursuant to 7.2.

7.2 TERMINATION BY OWNER FOR CONVENIENCE

A. Owner may, upon Notice, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for the convenience of Owner.

B. Unless Owner directs otherwise, after receipt of a Notice of termination for either cause or convenience, Contractor shall promptly:

1. Stop performing Work on the date and as specified in the notice of termination;
2. Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
3. Cancel all orders and subcontracts, upon terms acceptable to Owner, to the extent that they relate to the performance of Work terminated;

PART 8 - MISCELLANEOUS PROVISIONS

8.1 RECORDS KEEPING AND REPORTING

A. The Contractor and all Subcontractors shall maintain accounts and records in accordance with State Auditor’s procedures, including personnel, property, financial and programmatic records which sufficiently and properly reflect all direct and indirect costs of any nature expended and services performed in the performance of this Contract and other such records as may be deemed necessary by the Owner to ensure proper accounting for all funds contributed by the Owner to the performance of this Contract and compliance with this Contract.

B. The Contractor, and its Subcontractors, shall maintain these records for a period of six (6) years after the date of Final Acceptance.

8.2 AUDITS AND INSPECTIONS

A. The records and documents with respect to all matters covered by this Contract shall be subject at all times to inspection, review or audit by the Owner or any other government agency so authorized by law during the performance of this Contract. The Owner shall have the right to an annual audit of the Contractor’s financial statement and condition.

8.3 ORGANIZATION CONFLICTS OF INTEREST

A. The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under this Contract and the Contractor's organizational, financial, contractual or other interests are such that:

1. Award of the Contract may result in an unfair competitive advantage; or
2. The Contractor's objectivity in performing the Contract work may be impaired.

B. The Contractor agrees that if after award they discover an organizational conflict of interest with respect to this Contract, they shall make an immediate and full disclosure in writing to the Contracting Officer, which shall include a description of the action, which the Contractor has taken or intends to take to eliminate or neutralize the conflict. The Owner may, however, terminate the Contract if it deems the action to be in the best interest of the Owner.

C. In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the Contracting Officer, the Owner may terminate the Contract for default.

D. The provisions of this Clause shall be included in all subcontracts and consulting agreements wherein the work to be performed is similar to the services provided by the Contractor. The Contractor shall include in such subcontracts and consulting agreements any necessary provisions to eliminate or neutralize conflicts of interest.

8.4 INTERESTS OF MEMBERS OF CONGRESS

A. No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this Contract or to any benefit to arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

8.5 INTERESTS OF MEMBERS, OFFICERS, COMMISSIONERS AND EMPLOYEES, OR FORMER MEMBERS, OFFICERS AND EMPLOYEES

A. No member, officer, or employee of the King County Housing Authority, no member of the governing body of the locality in which the project is situated, no member of the governing body in which the Owner was activated, and no other public official or such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this Contract or the proceeds thereof.

BID FORM

PROJECT NAME AND LOCATION:

Window Replacements **Contract Number: HW2104131**
Woodside East Apartments

BID FORM

The undersigned, Legal Name of Bidder: _____

on this date: _____, 2021, having familiarized him/herself with the contract documents, site conditions, and has field verified all measurements contained in the project manual as prepared by the Owner, hereby proposes to furnish labor, materials and necessary equipment – all including, but not limited to, demolition, disposal, new installation and the required applicable taxes and fees to complete the work for the following bid amounts:

BASE BID _____ (**$**_____)
(Including sales tax indicated in Instructions to Bidders)

ADDENDA _____
Acknowledge receipt of any addenda by inserting the number(s) above

In submitting this bid, it is understood that the right is reserved by the Owner to reject any and all bids. The undersigned hereby agrees that this proposal shall be a valid and firm offer for a period of Sixty (60) calendar days from the date of Bid Opening.

Bidder agrees that Work will be substantially complete and ready for final payment in accordance with the Contract Documents on or before the date, within the number of calendar days indicated.

The undersigned Bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date for this Project, the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

_____ _____
Signature of Bidder Print Your Name

Submitted on _____ day of _____ 2021

_____ _____
City State

BIDDER INFORMATION

BIDDER INFORMATION

Name of Bidder (Company): _____

Address: _____

Contact Name: _____

Phone Number: _____ Email Address: _____

Business Type: General Contractor ( ) Other ( ) (Please specify): _____

Bidder is a(n): ☐ Individual ☐ Partnership ☐ Joint Venture ☐ Incorporated in the state of _____

List business names & associated UBI # used by Bidder during the past 5 years if different than above:

_____

Bidder has been in business continuously from: _____
Month, Year

Business License #: _____ Federal ID #: _____

Current UBI #: _____ Dept. of L&I Worker's Comp. Acct. #: _____

Bidder has experience in work "Similar in Scope and Complexity" comparable to that required for this Project:

As a prime contractor for _____ years. As a subcontractor for _____ years.

OWNER(S) OF COMPANY (List **all** owners):	OWNER'S SOCIAL SECURITY NUMBER (only required if sole proprietorship):

No. of regular full-time employees other than owner(s): _____

Indicate clearly the kind of work your company will actually perform in this project:

_____

Approximate % of work your company will actually perform: _____

List the supervisory personnel to be employed by the Bidder and available for, and intended to, work on this project:

Name	Title	How Long With Bidder
_____	_____	_____
_____	_____	_____

BIDDER INFORMATION

SUBCONTRACTORS

Do you intend to use Subcontractor(s) in this project? Yes ☐ No ☐ (If yes, you must show the name of the subcontractors. Attach additional pages as necessary.)

Subcontractors Name	Subcontractor's UBI#	Phone Number	Trade	Years in Business
1.				
2.				
3.				
4.				
5.				

BIDDER'S EXPERIENCE

Projects successfully supervised and completed by your company for work of similar scope and value as specified in bid documents in the last 5 years. Attach additional pages as necessary.

Name of Project	Completion Date	Duration (Months)	Nature of Work	Amount of Contract
1.				
2.				
3.				
4.				
5.				

Owner's Name (of project listed above)	Project Address	Contact Person	Phone Number
1.			
2.			
3.			
4.			
5.			

Has Bidder ever been found guilty of violating any State or Federal employment laws? ☐ No ☐ Yes
If yes, give details & attach additional pages as necessary: _____

_____

_____

Has Bidder ever filed for protection under any provision of the federal bankruptcy laws or state insolvency laws?
☐ No ☐ Yes If yes, give details & attach additional pages as necessary: _____

_____

_____

BIDDER INFORMATION

Has any lien, claim and/or adverse legal action related to construction been rendered against Bidder in the past five years? (i.e., open claims, lawsuits, warrants, judgements including but not limited to those that would show on the L&I website) ☐ No ☐ Yes If yes, give details & attach additional pages as necessary: _____

_____

_____

Has Bidder or any of its employees filed any claims with Washington State Worker's Compensation or other insurance company for accidents resulting in fatal injury or dismemberment in the past 5 years? ☐ No ☐ Yes
If yes, please state:

Date	Type of Injury	Agency Receiving Claim
_____	_____	_____
_____	_____	_____

Bidders current Experience Modification Rate (EMR): _____

(If Bidder is self-insured, attach proof of EMR stated, showing complete worksheet calculations)

The bidder hereby certifies that the information contained in this Bidder's Information is accurate, complete and current.

BY: _____ NAME: _____
(signature) (print)

TITLE: _____ DATE: _____

CONTRACT FORM

This Contract is entered into by and between the King County Housing Authority, hereinafter referred to as the "Owner" whose principal office is located at 600 Andover Park West, Seattle, WA 98188 and , referred to as the "Contractor", whose principal office is located at .

IN CONSIDERATION OF the mutual benefits and conditions hereinafter contained, the parties hereto agree as follows:

1.1 Contract Documents

A. The provisions set forth in the Contract Documents are hereby incorporated into and made part of the Contract. Contractor acknowledges receipt and review of all Contract Documents applicable to performance of the work. The Contract shall consist of the following component parts:

1. This Instrument
2. Addenda
3. Specifications
4. Plans
5. Bid Form
6. Pre-Bid Agenda
7. General Conditions
8. Instructions to Bidders
9. Prevailing Wage Rates
10. Performance and Payment Bonds
11. Hazardous Material Report dated December 11, 2019
12. Hazardous Material Report dated June 27, 2004
13. Hazardous Material Report dated July 30, 2004

1.2 Scope of Services to be Performed by the Contractor: The Contractor shall provide all labor, materials, tools, equipment, transportation, supplies, and incidentals required to complete the work in accordance with the Contract Documents for:

Project: Woodside East Apartments Window Replacements Contract No.: HW2104131

1.3 Compensation: The total amount of the Contract shall be dollars and cents ($) subject to additions and deductions provided therein.

1.4 Duration of Contract: The Contractor shall commence work after receipt of Notice to Proceed, follow the schedule specified in the contract documents, and all work must be completed within forty-five (45) consecutive calendar days from the date of the Notice to Proceed unless sooner terminated pursuant to the General Conditions. Upon expiration of the original Contract term, the Contract, at the Owner's sole discretion, may be extended for a period determined by the Owner.

1.5 Liquidated Damages: Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. If Completion of the Work does not occur within the Contract Time, the Contractor agrees that Liquidated Damages in the amount of **$250.00** per Day will be assessed for each calendar day that the Contractor exceeds the time for completion.

The individuals signing this Contract warrant and represent for themselves and for their respective organizations that they are duly authorized to sign this Contract and that upon such signing their respective organizations are bound thereby.

DATED this _____ day of _____, 2021

Contractor

_____
President/Owner

Owner

_____
Dan Watson
Deputy Executive Director
KING COUNTY HOUSING AUTHORITY

CERTIFICATE OF INSURANCE

DATE(MM/DD/YY)
Issue Date

PRODUCER
Vendor's Insurance Agent
Street Address
City, State, Zip
Phone Number

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY **A**	**ABC Insurance Company**
COMPANY **B**	**DEF Insurance Company**
COMPANY **C**	**GHI Insurance Company**
COMPANY **D**	

INSURED
Vendor Name
Street Address
City, State, Zip

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH REPSECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	**GENERAL LIABILITY** [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR [ ] OWNER'S & CONTRACTOR'S PROT	**XXX123**	**01/01/00**	**01/01/01**	GENERAL AGGREGATE PRODUCTS-COMP/OP AGG PERSONAL & ADV INJURY EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person)	**2,000,000** **1,000,000** **1,000,000** **1,000,000** **50,000** **5,000**
B	**AUTOMOBILE LIABILITY** [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [X] HIRED AUTOS [ ] NON-OWNED AUTOS	**XXX456**	**01/01/00**	**01/01/01**	COMBINED SINGLE LIMIT BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE	**1,000,000**
	GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY-EA ACCIDENT OTHER THAN AUTO ONLY: EACH ACCIDENT AGGREGATE	
	EXCESS LIABILITY [ ] UMBRELLA FORM [ ] OTHER THAN UMBRELLA FORM				EACH OCCURRENCE AGGREGATE	
C	**WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY** THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: [ ] INCL [ ] EXCL	**XXX789**	**01/01/00**	**01/01/01**	[X] STATUTORY LIMITS EACH ACCIDENT DISEASE-POLICY LIMIT DISEASE-EACH EMPLOYEE	**1,000,000** **1,000,000** **1,000,000**
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Greystar Real Estate Partners, LLC and King County Housing Authority are named as additional insureds with respect to above general liability and auto coverage. Re: Contract HW2104131 at Woodside East Apartments 16240 NE 14th St., Bellevue, WA 98008.

CERTIFICATE HOLDER
Greystar Real Estate Partners, LLC
King County Housing Authority
600 Andover Park West
Seattle, WA 98188-3326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL **30** DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Signature of Insured's Agent

PROVIDE

GENERAL LIABILITY ENDORSEMENT

and

AUTO LIABILITY ENDORSEMENT

NVL

INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Limited Good Faith Asbestos Inspection

"Woodside East - Bldg. V, W, X, Y, Z"
16240 NE 14th Street
Bellevue, WA 98008

Prepared For
Mr. Hugh Watkinson
King County Housing Authority
600 Andover Park W
Tukwila, WA 98188

Project Number	2019-0935
Inspection Date	December 6, 2019
Report Date	December 11, 2019
Inspected By	Jason Lindahl / Tanveer Khan
AHERA Certification	# 173191 / # 172872
Certification Expiration Date	May 15, 2020 / April 24, 2020

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APPENDICIES

A Sample Locations (Floor Plan)

B Laboratory Analysis Results

C AHERA Certification & Laboratory Qualifications

1.0 SCOPE OF WORK

A Limited Good Faith Asbestos Inspection was conducted at the "Woodside East" apartments located at 16240 NE 14th Street, Bellevue, WA 98008 on December 6, 2019.

Jason Lindahl and Tanveer Khan (AHERA Certified Building Inspectors), conducted this inspection at the request of Mr. Hugh Watkinson of King County Housing Authority.

The purpose of this inspection was to identify asbestos containing building materials which would be impacted by the planned window replacement project on buildings V, W, X, Y, Z only.

Due to occupancy, destructive sampling methods were not utilized during this inspection. No soft/limited demolition was performed during this inspection. Hidden materials may exist within the structures, and all suspect materials must be treated as asbestos containing until testing proves otherwise.

This inspection constitutes a survey of accessible suspect ACM in the project area and was conducted in accordance with:

The National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 Code of Federal Regulations (CFR) Part 61, Subpart M requires a survey by an accredited asbestos inspector prior to demolition of a structure.

This asbestos survey also satisfies the requirements for "Good Faith" inspection outlined in Washington Administrative Code (WAC) 296-62-07721 (2) Communication of hazards, which requires the owner of a structure to provide contractors with a written report identifying the asbestos-containing materials expected to be disturbed during renovation or demolition.

The asbestos survey section is written to comply with the AHERA asbestos sampling procedure as stated in 40 CFR 763.86. This protocol is required under the Puget Sound Clean Air Agency (PSCAA Regulation III, Article IV, rev. March 26, 2009) for all asbestos surveys prior to a building demolition.

A floor plan indicating locations of samples collected by NVL personnel has been included in **Appendix A**.

2.0 INSPECTION METHOD

Asbestos Inspection Method

The NVL Labs field inspector is an Asbestos Building Inspector, certified under the requirements of the United States Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulation 40 CFR 763, Subpart E. A copy of his certificate is provided in Appendix C.

The AHERA Guidelines dictate the following:

The inspector must determine *homogenous areas*, which are defined as an area of Thermal System Insulation, Surfacing Material, or Miscellaneous Material that is uniform in texture and color.

Once homogenous areas have been determined, the inspector must determine whether or not material is friable or non-friable. ***Friable*** is defined as a material, that when dry, can be crushed, pulverized, or reduced to dust using hand pressure, and ***non-friable*** material is defined as a material, that when dry, *cannot* be crushed pulverized or reduced to dust using hand pressure. Materials normally defined as non-friable can become friable by definition if sufficiently damaged.

Once friability has been determined, the materials suspected of containing asbestos are divided into one of three categories: Thermal System Insulation (TSI), Surfacing Material (SM), or Miscellanéous Material (MM). Generally speaking, TSI and SM are considered to be friable, with the exception of TSI where the structural integrity of the insulation is intact and the protective out wrap is undamaged.

Once materials are divided into one of the categories, samples are collected in the following manner:

Friable Thermal System Insulation:

1. Inspector shall collect three (3) randomly distributed samples;

2. Inspector shall collect a minimum of one sample of each TSI materials that appears to have been used as a patch, as long as the patch is less than 6 linear feet / 6 square feet;

3. Inspector shall collect in a manner sufficient, samples from areas of TSI applied to fittings, tees, and joints.

Friable Surfacing Material:

1. Inspector shall collect samples in random manner of surfacing materials as follows:

    a. Collect three bulk samples from an area believed to be homogeneous (defined as a material that appears to be the same or similar and was installed at the same time) that is 1,000 square feet or less in size;

    b. Collect five bulk samples from an area believed to be homogeneous that is greater than 1,000 square feet in size, but less than 5,000 square feet in size;

    c. Collect seven bulk samples from an area believed to be homogeneous that is greater than 5,000 square feet.

2.0 INSPECTION METHOD (continued)

Miscellaneous Materials:

1. Inspector shall collect samples in a manner and number sufficient to determine if the material is asbestos-containing or not.

All Materials Determined to Be Non-Friable:

1. Inspector shall collect samples in a manner and number sufficient to determine if the material is asbestos containing or not.

In addition to these sampling requirements, the AHERA Building Inspector is required to assess the following of each material that is found to be positive for asbestos:

1. The condition of each material;
2. Accessibility;
3. Possibility for air erosion.

Once the samples have been collected, they must be analyzed by an accredited laboratory, and they must be analyzed using polarized light microscopy methods, commonly referred to as EPA Method 600/R-93/116.

NVL Labs collected samples and obtained analytical data for suspect asbestos-containing materials identified in the building. Once collected, each bulk sample was sealed in an unadulterated plastic bag to eliminate the possibility of cross-contamination. "Chain-of-Custody" tracking was followed to maintain sample integrity during handling and data reporting at NVL Labs.

A walk-through inspection of all accessible areas of the space was performed to identify suspect asbestos-containing materials. This inspection included a review of the internal and external aspects of this structure. The locations and types of potential asbestos-containing materials were noted.

Homogeneous Materials

Homogeneous materials are defined as an area of asbestos-containing material or presumed asbestos-containing material which appears similar throughout in terms of color, texture, and date of material application. The report listing for homogenous materials will appear as follows:

Sample Number	Material Description by Layer	Location	Asbestos	Quantity	Friable
#	Layer 1 is not asbestos-containing **Layer 2 is asbestos-containing**	**Location description**	1. % 2. %	**"X" LF/ft²**	**Yes/No**

3.0 LABORATORY INFORMATION

Laboratory Analysis: Asbestos

In accordance with 40 CFR Chapter 1 (7-01-07 Edition) Part 763, Subpart E, Appendix E, asbestos samples are analyzed at NVL Labs using polarized light microscopy (PLM) with dispersion staining. If samples are not homogeneous, then sub-samples of the components are analyzed separately. All bulk samples are analyzed using EPA Method 600/R-93/116 with the following measurement uncertainties for reported % asbestos: 1%=0-3%, 5%≥1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%. Only materials containing more than 1% total asbestos were classified as "asbestos-containing" based on EPA, state, and local regulations.

Findings for samples containing more than one separable layer of materials are reported for each layer. The asbestos concentration in the sample is determined by visual estimation.

NVL Labs is accredited by the National Institute of Standards and Technology (NIST) under the National Volunteer Laboratory Accreditation Program (NVLAP) program for bulk asbestos fiber analysis; *NVLAP Lab Code 102063-0*

Laboratory Accreditation

Professional accreditations for NVL Laboratories, Inc. include the following:

NVL Laboratories, Inc. is currently accredited by the National Institute of Standards and Technology (NIST) under the National Volunteer Laboratory Accreditation Program (NVLAP) program for bulk asbestos fiber analysis.

NVLAP Lab Code 102063-0

NVL Laboratories, Inc. is approved by the American Industrial Hygiene Association (AIHA) Asbestos Analysts Registry (AAR) program for airborne asbestos fiber analysis.

AAR Counter ID 7412

NVL Laboratories, Inc. is currently accredited by the American Industrial Hygiene Association (AIHA) under the Industrial Hygiene Laboratory Accreditation Program (IHLAP). The IHLAP program is designed specifically for laboratories involved in analyzing samples to evaluate workplace exposure.

IHLAP Certification Number 563

4.0 BUILDING DESCRIPTION

Parcel Number	262505-9066
Year of Construction	1968
Building Square Footage	29,000 ft^2
County	King
General Building Type	The surveyed area consists of 5 apartment buildings of traditional wood framed construction.
Primary External Components	The exterior of the buildings have wood siding.
Foundation Type	The foundation was not part of this inspection.
Roofing Material(s)	The roof was not part of this inspection.
Window Type(s)	The buildings have aluminum framed windows with interior / exterior caulking.
Flooring	The flooring was not part of this inspection.
Thermal Systems With Insulation	The heating system was not part of this inspection.
Finishing	The buildings are finished with drywall throughout.

5.0 FINDINGS

Inventory of Suspect Asbestos-Containing Building Materials

Building V

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-V-3-1	1: Joint compound with paint 2: Drywall	Unit V-1 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-2	1: Joint compound with paint 2: Drywall	Unit V-2 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-3	1: Joint compound with paint 2: Drywall	Unit V-3 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-4	1: Joint compound with paint 2: Drywall	Unit V-4 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-5	1: Joint compound with paint 2: Drywall	Unit V-5 – bedroom, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-6	1: Joint compound with paint 2: Drywall	Unit V-6 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-7	1: Joint compound with paint 2: Drywall	Unit V-7 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-V-3-8	White caulking	Unit V-2 – bedroom, interior window perimeter	ND		
2019-0935-V-3-9	Black caulking	Unit V-4 – bedroom, interior window perimeter	ND		
2019-0935-V-3-10	1: White caulking 2: Black caulking	Unit V-1 – bedroom, exterior window perimeter	1: ND 2: ND		

Building W

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-W-3-1	1: Joint compound with paint 2: Drywall	Unit W-1 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-W-3-2	1: Joint compound with paint 2: Drywall	Unit W-2 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-W-3-3	1: Joint compound with paint 2: Drywall	Unit W-5 – living room, interior window perimeter	1: ND 2: ND		

ND None Detected

5.0 FINDINGS (continued)

Building W

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-W-3-4	1: Joint compound with paint 2: Drywall	Unit W-7 – bedroom, interior window perimeter	1: ND 2: ND		
2019-0935-W-3-5	1: Joint compound with paint 2: Drywall	Unit W-8 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-W-3-6	1: Joint compound with paint 2: Drywall	Unit W-6 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-W-3-7	1: Joint compound with paint 2: Drywall	Unit W-10 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-W-3-8	White caulking	Unit W-1 – bedroom, interior window perimeter	ND		
2019-0935-W-3-9	White caulking	Unit W-8 – bedroom, interior window perimeter	ND		
2019-0935-W-3-10	White caulking	Unit W-6 – bedroom, exterior window perimeter	ND		

Building X

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-X-3-1	1: Joint compound with paint 2: Joint compound 3: Drywall	Unit X-1 – living room, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-X-3-2	1: Joint compound with paint 2: Joint compound 3: Drywall	Unit X-2 – living room, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-X-3-3	1: Joint compound with paint 2: Drywall	Unit X-3 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-X-3-4	1: Joint compound with paint 2: Drywall	Unit X-4 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-X-3-5	1: Joint compound with paint 2: Drywall	Unit X-5 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-X-3-6	1: Joint compound with paint 2: Drywall	Unit X-7 – living room, interior window perimeter	1: ND 2: ND		

ND None Detected

5.0 FINDINGS (continued)

Building X

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-X-3-7	1: Joint compound with paint 2: Drywall	Unit X-8 – living room, interior window perimeter	1: ND 2: ND		
2019-0935-X-3-8	White caulking	Unit X-1 – bedroom, interior window perimeter	ND		
2019-0935-X-3-9	White caulking	Unit X-8 – bedroom, interior window perimeter	ND		
2019-0935-X-3-10	White caulking	Unit X-2 – bedroom, exterior window perimeter	ND		

Building Y

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-Y-3-1	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Y-1 – living room, interior window perimeter	1: ND 2: ND 3: ND 4: ND		
2019-0935-Y-3-2	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Y-1 – bedroom, interior window perimeter	1: ND 2: ND 3: ND 4: ND		
2019-0935-Y-3-3	1: Joint compound with paint 2: Paper 3: Drywall	Unit Y-2 – living room, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-Y-3-4	1: Joint compound with paint 2: Paper 3: Drywall	Unit Y-2 – bedroom, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-Y-3-5	1: Joint compound with paint 2: Paper 3: Drywall	Unit Y-3 – living room, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-Y-3-6	1: Joint compound with paint 2: Paper 3: Drywall	Unit Y-3 – bedroom, interior window perimeter	1: ND 2: ND 3: ND		

ND None Detected

5.0 FINDINGS (continued)

Building Y

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-Y-3-7	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Y-4 – bedroom, interior window perimeter	1: ND 2: ND 3: ND 4: ND		
2019-0935-Y-3-8	Off-white caulking	Unit Y-2 – bedroom, interior window perimeter	ND		
2019-0935-Y-3-9	Off-white caulking	Unit Y-3 – bedroom, interior window perimeter	ND		
2019-0935-Y-3-10	Gray caulking	Unit Y-2 – bedroom, exterior window perimeter	ND		

Building Z

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-Z-3-1	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Z-1 – bedroom, interior window perimeter	1: ND 2: ND 3: ND 4: ND		
2019-0935-Z-3-2	1: Joint compound with paint 2: Paper 3: Drywall	Unit Z-2 – living room, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-Z-3-3	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Z-4 – bedroom, interior window perimeter	1: ND 2: ND 3: ND 4: ND		
2019-0935-Z-3-4	1: Joint compound with paint 2: Paper 3: Drywall	Unit Z-5 – living room, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-Z-3-5	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Z-7 – living room, interior window perimeter	1: ND 2: ND 3: ND 4: ND		

ND None Detected

5.0 FINDINGS (continued)

Building Z

Sample Number	Material Description by Layer	Location	Asbestos	Quantity **	Friable*
2019-0935-Z-3-6	1: Joint compound with paint 2: Joint compound 3: Paper 4: Drywall	Unit Z-8 – living room, interior window perimeter	1: ND 2: ND 3: ND 4: ND		
2019-0935-Z-3-7	1: Joint compound with paint 2: Paper 3: Drywall	Unit Z-9 – bedroom, interior window perimeter	1: ND 2: ND 3: ND		
2019-0935-Z-3-8	Off-white caulking	Unit Z-8 – bedroom, interior window perimeter	ND		
2019-0935-Z-3-9	Off-white caulking	Unit Z-2 – living room, interior window perimeter	ND		
2019-0935-Z-3-10	1: Off-white caulking 2: Black felt	Unit Z-1 – living room, exterior window perimeter	1: ND 2: ND		

ND None Detected

Any suspect material(s) not identified above should not be disturbed and should be tested immediately. All suspect materials must be treated as asbestos-containing until testing proves otherwise.

6.0 CONCLUSIONS AND RECOMMENDATIONS

There were no asbestos-containing building materials identified during the Limited Good Faith Asbestos Inspection of buildings V, W, X, Y, Z located at the Woodside East Apartments, Bellevue, WA.

Contractors should be aware that concealed suspect asbestos-containing building materials may be uncovered during the course of demolition or renovation work. Contractors should have contingency plans that include stopping work, evacuation of the immediate area and sampling by a certified AHERA Building Inspector whenever these materials are found. Concealed suspect materials may include, but are not limited to: non-fiberglass pipe or roof drain insulation; spray-applied coatings; cement board; asphalt or paper vapor barriers; floorings and adhesives.

If discovered, all asbestos-containing materials that will be disturbed as a natural part of renovation and/or demolition are required to be removed and disposed of in accordance with Washington State regulations. Washington State Department of Labor and Industries and PSCAA require that the abatement be performed using Certified Asbestos Workers under the direct on site supervision by a Certified Asbestos Supervisor.

6.0 CONCLUSIONS AND RECOMMENDATIONS (continued)

NVL recommends that an AHERA inspector/project manager be on site at the time of renovation/demolition to ensure that any potentially asbestos-containing materials uncovered during the process of renovation/demolition be dealt with properly.

NVL Labs, Inc. is making the following recommendations regarding asbestos:

1. A copy of this inspection report should be maintained at the site during any renovations.

2. A copy of this inspection report should be provided to the General Contractor and any Sub Contractors working on the renovation project.

3. A licensed asbestos abatement contractor must be utilized to remove any asbestos-containing materials that will be impacted by the planned demolition.

4. Abatement specifications should be prepared by a Hazardous Materials Consulting firm covering the regulated building materials that will be impacted by the renovations / demolition, and these specifications should be part of any contract documents prepared for this project.

5. A licensed asbestos abatement contractor must be utilized to remove any asbestos-containing materials that will be impacted by the planned renovation / demolition.

6. A Hazardous Materials Consulting Firm should provide project oversight and air monitoring during the removal of the asbestos-containing materials.

7.0 LIMITATIONS

The purpose of this Limited Good Faith Asbestos Inspection report is to document asbestos-containing materials discovered at "Woodside East" 16240 NE 14th Street, Bellevue, WA 98008.

The purpose of this inspection was to identify asbestos containing building materials which would be impacted by the planned window replacement project on buildings V, W, X, Y, Z only.

Due to occupancy, destructive sampling methods were not utilized during this inspection. No soft/limited demolition was performed during this inspection. Hidden materials may exist within the structures, and all suspect materials must be treated as asbestos containing until testing proves otherwise.

This site visit consisted of a thorough visual walk-through of the building for the purpose of viewing and sampling potential asbestos-containing material. As hazardous material surveys are non-comprehensive by nature, NVL Laboratories, Inc. cannot be held liable for materials which require destructive means to access, materials which are hidden from sight (e.g. materials hidden behind walls), materials which cannot be found due to their obscure nature, or which otherwise cannot be discovered with reasonable diligence.

This document is the sole property of NVL Laboratories and the property owner, or his agent, authorizing this survey.

Inspected By

Jason Lindahl
AHERA Building Inspector
AHERA Certification: # 173191
Expiration Date: May 15, 2020

Reviewed By

Syed Hasan
Manager Field Services
AHERA Certification: # 174015
Expiration Date: July 17, 2020

Inspected By

Tanveer Khan
AHERA Building Inspector
AHERA Certification: # 172872
Expiration Date: April 24, 2020

Appendix A

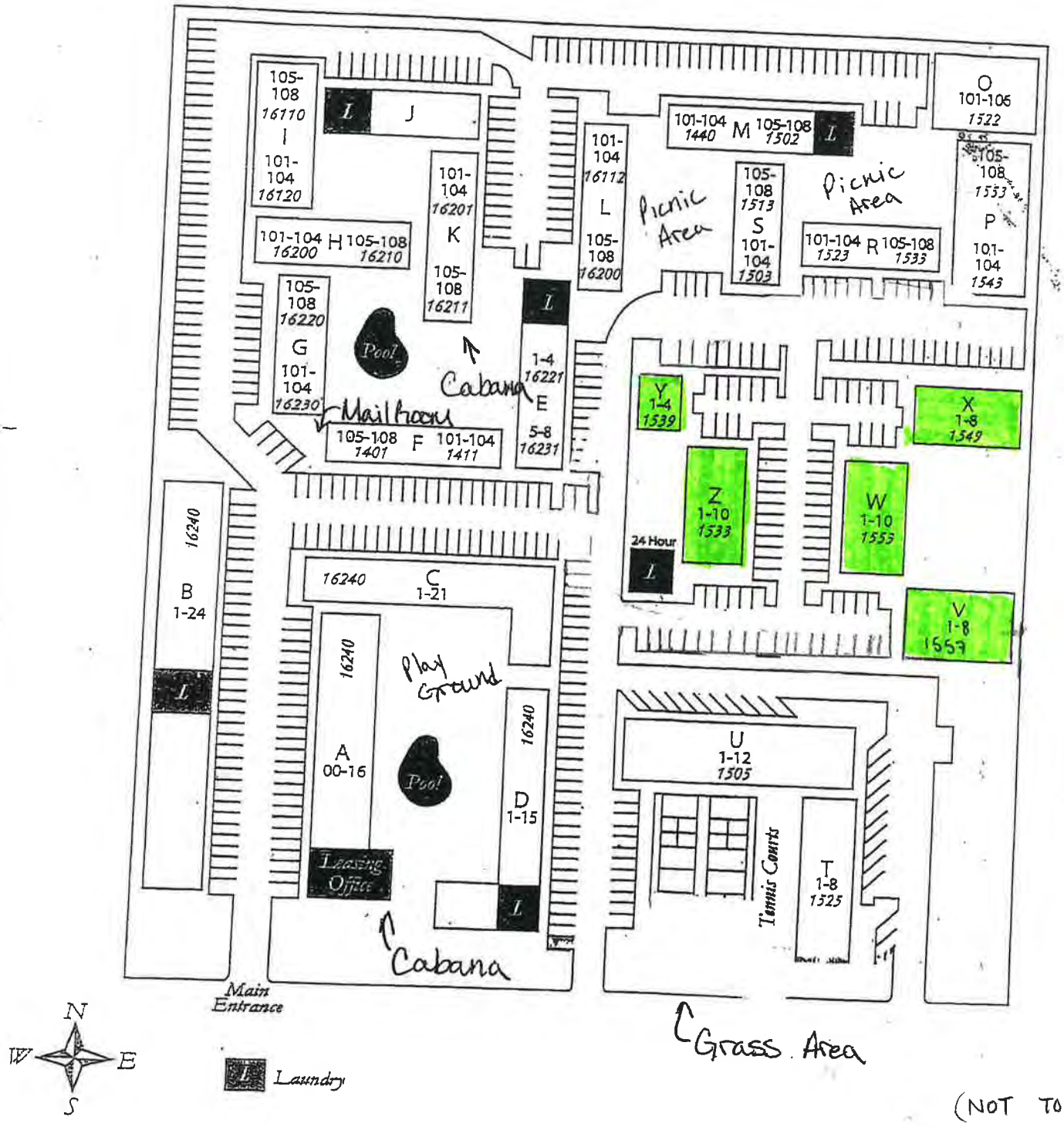
Sample Locations (Floor Plan)

NVL PROJECT # 2019-0935

Woodside East
APARTMENTS

16240 NE 14th Street, Bellevue, WA 98008
Phone: 425.644.7162 Facsimile: 425.644.6996

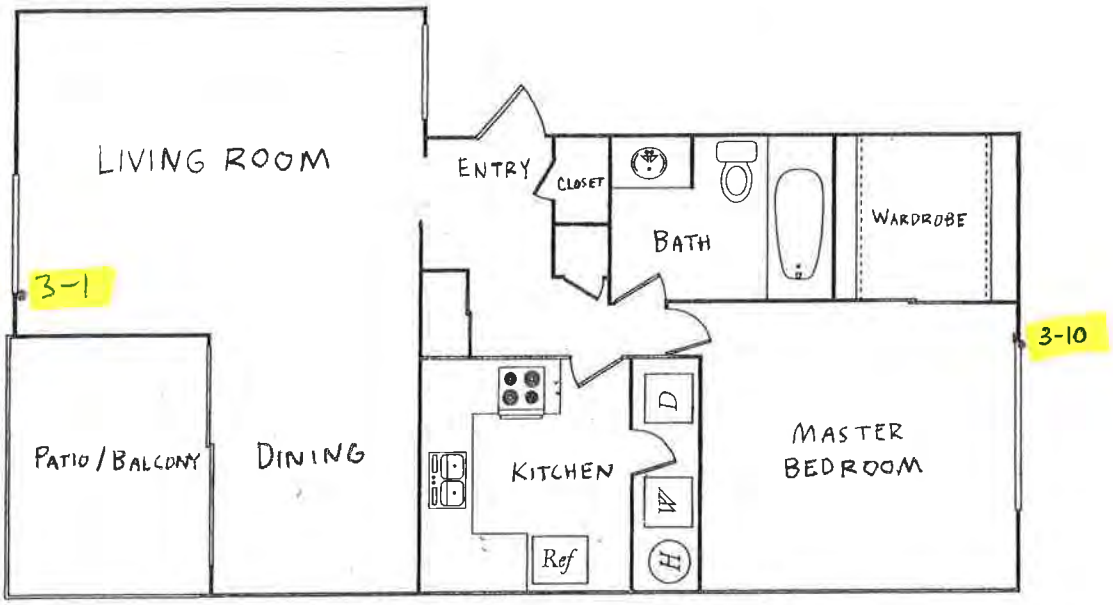
SITE MAP



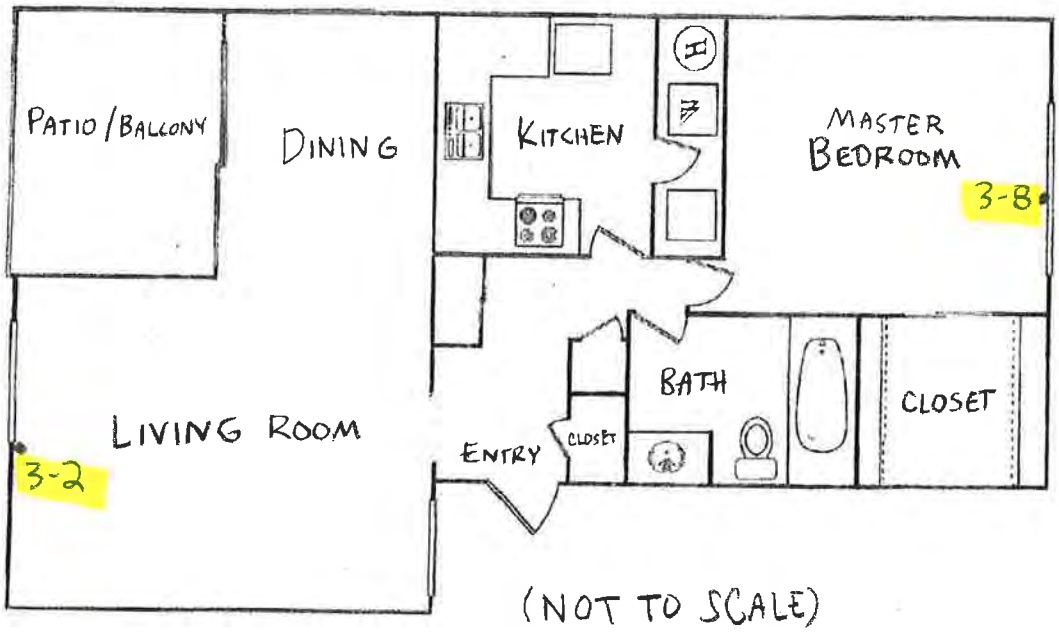
(NOT TO SCALE)

SURVEYED AREA HIGHLIGHTED

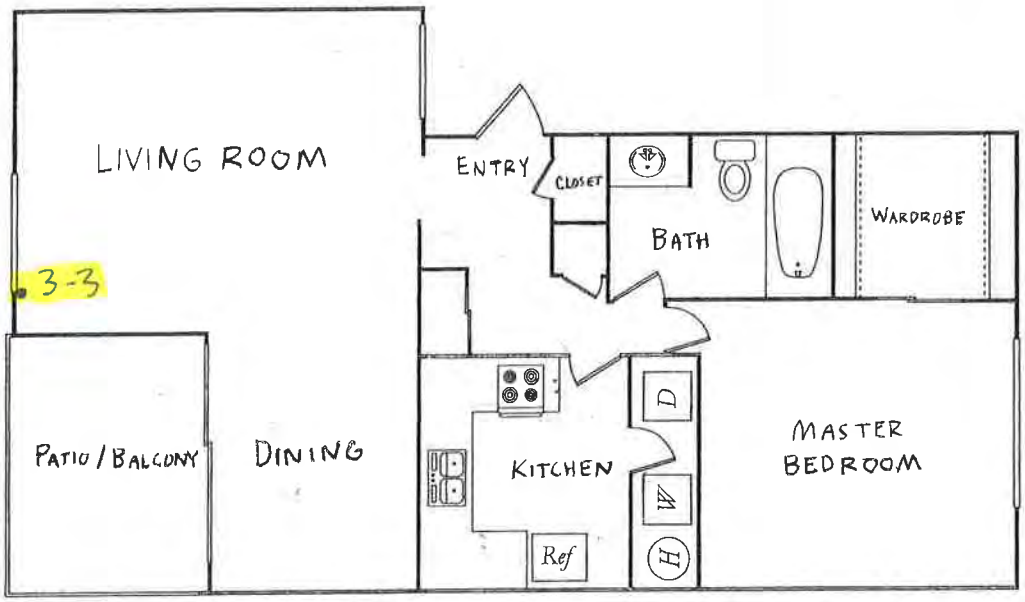
UNIT V-1



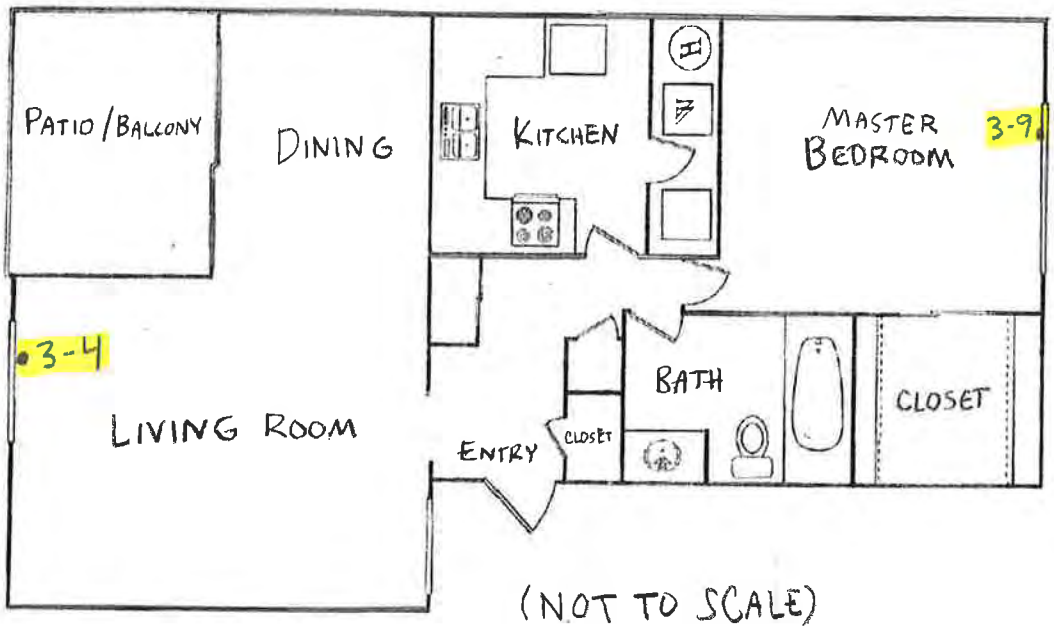
UNIT V-2



UNIT V-3



UNIT V-4



(NOT TO SCALE)

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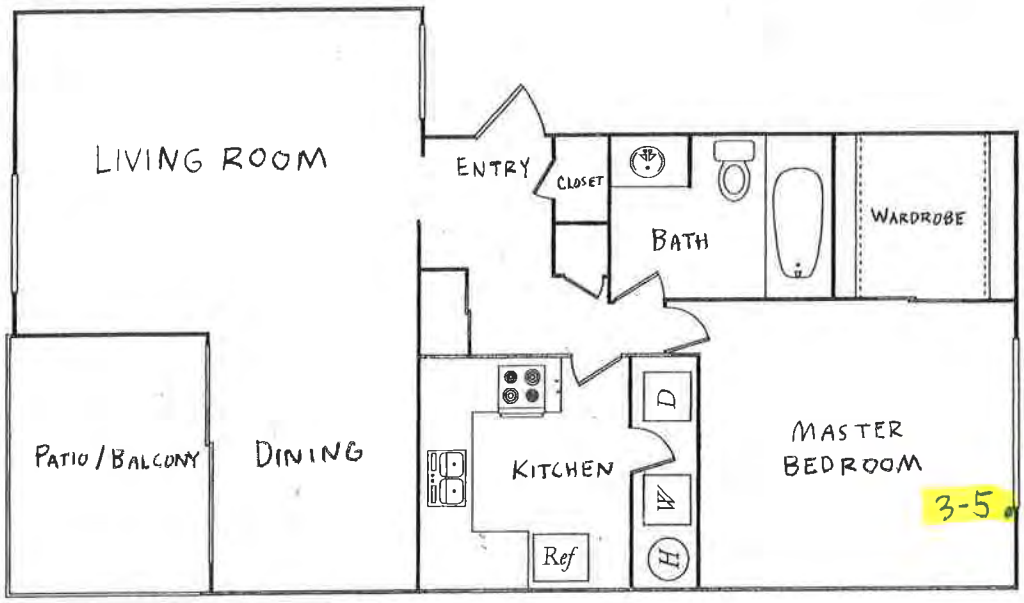
NVL Project # **2019-0935**

Client King County Housing Authority - Hugh Page 4 of 17

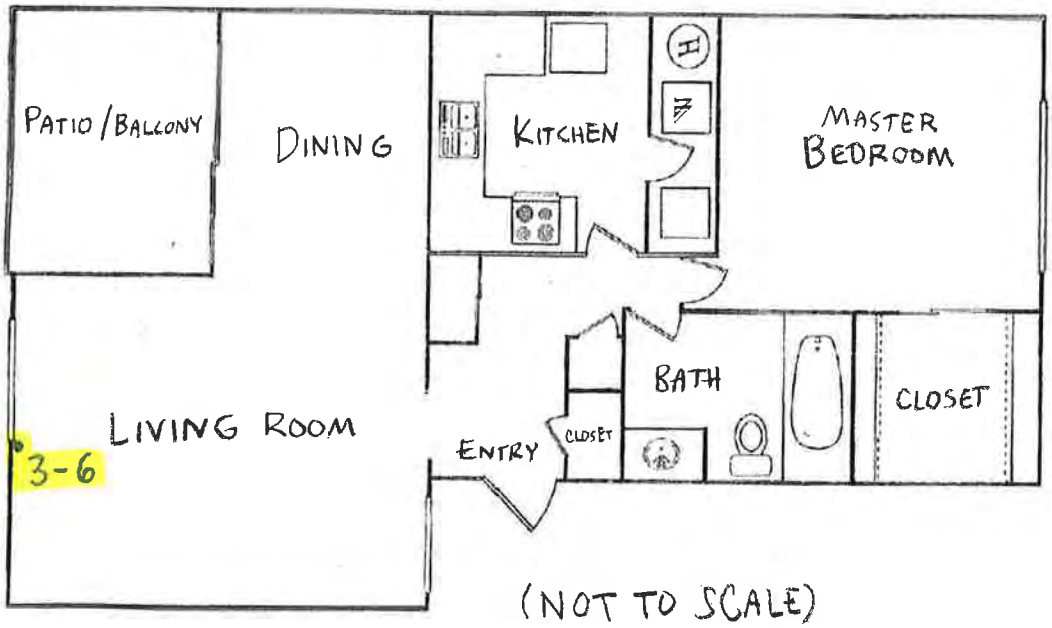
Location "Woodside East" - 16240 NE 14th St Date 12/6/2019

City Bellevue Made by Tanveer Khan

UNIT V-5



UNIT V-6



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Client King County Housing Authority - Hugh
Location "Woodside East" - 16240 NE 14th St
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Date 12/6/2019
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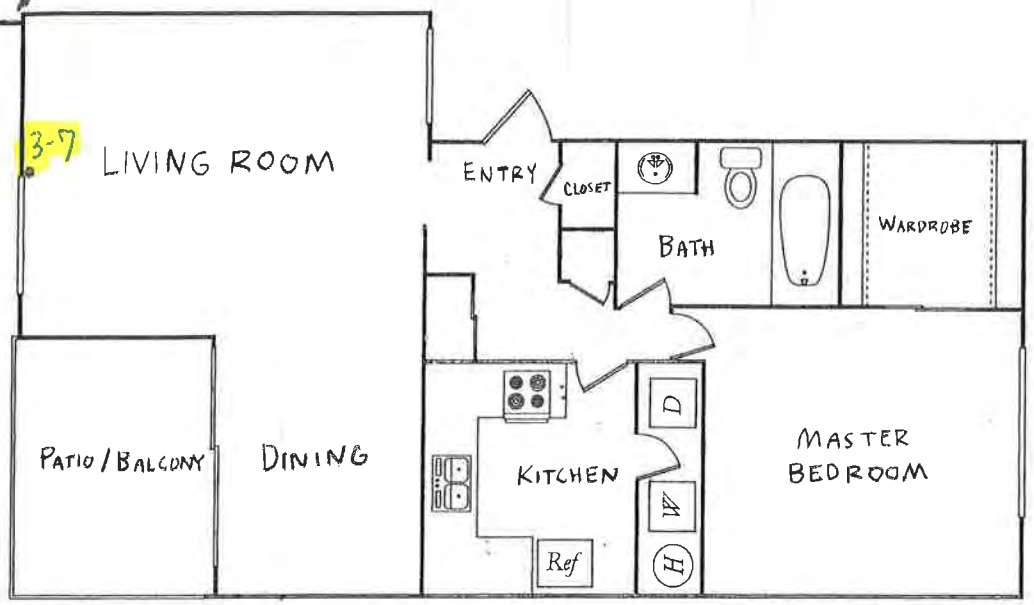
UNIT V-7



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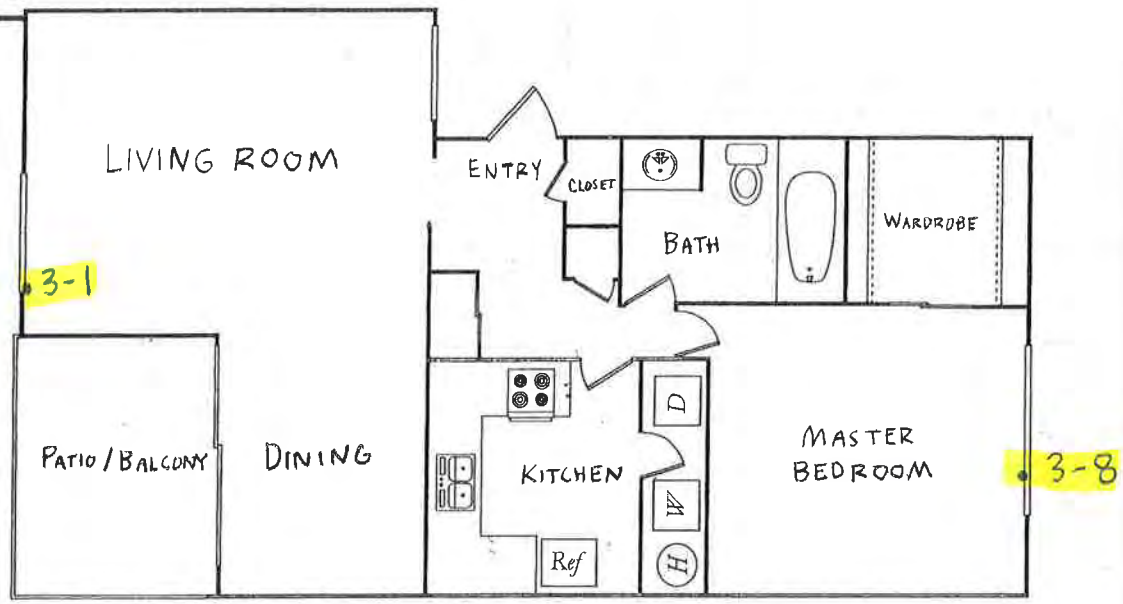

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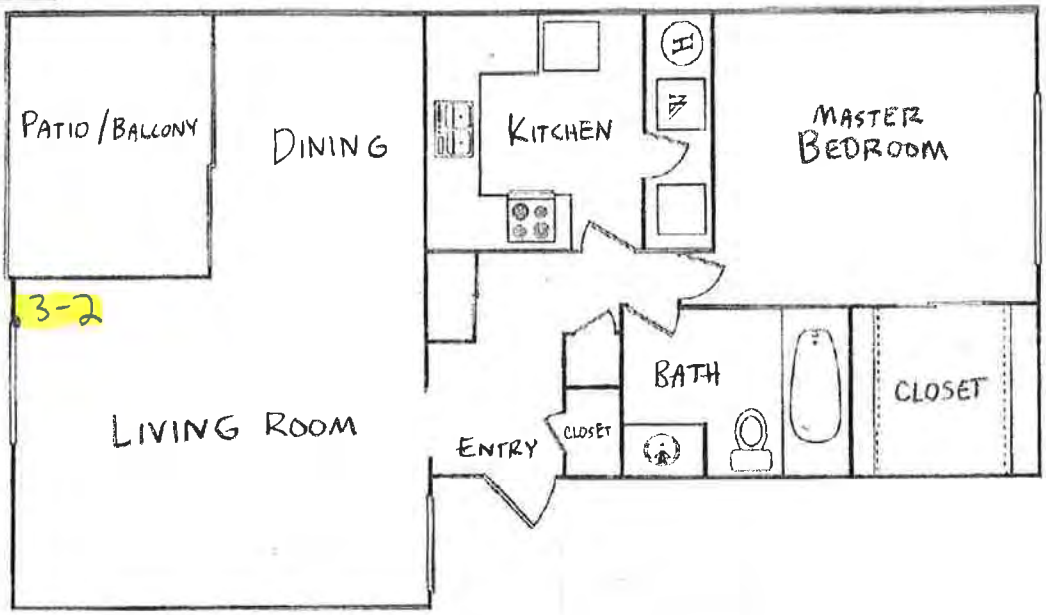
UNIT W-2



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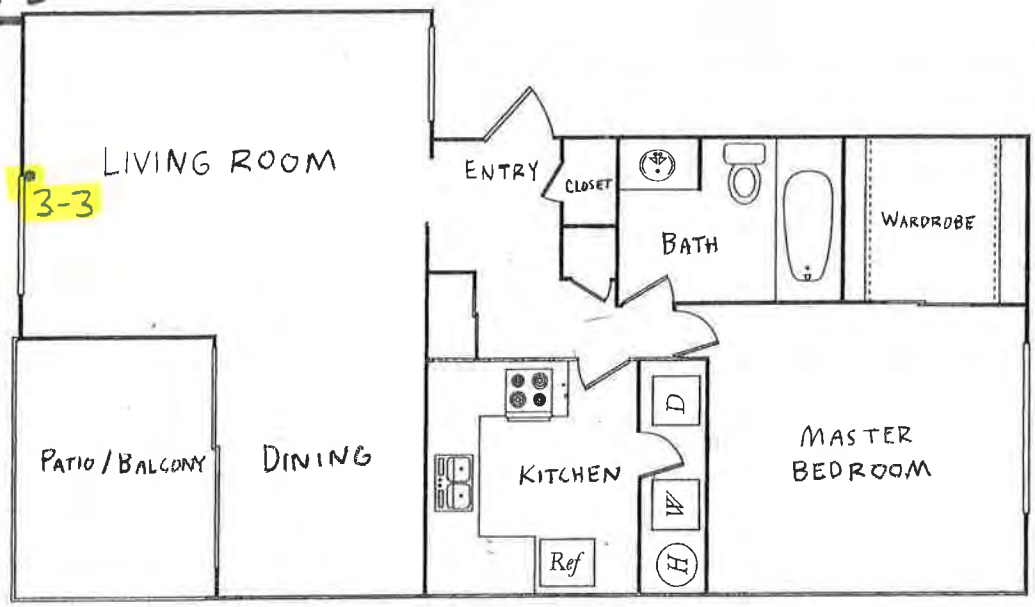

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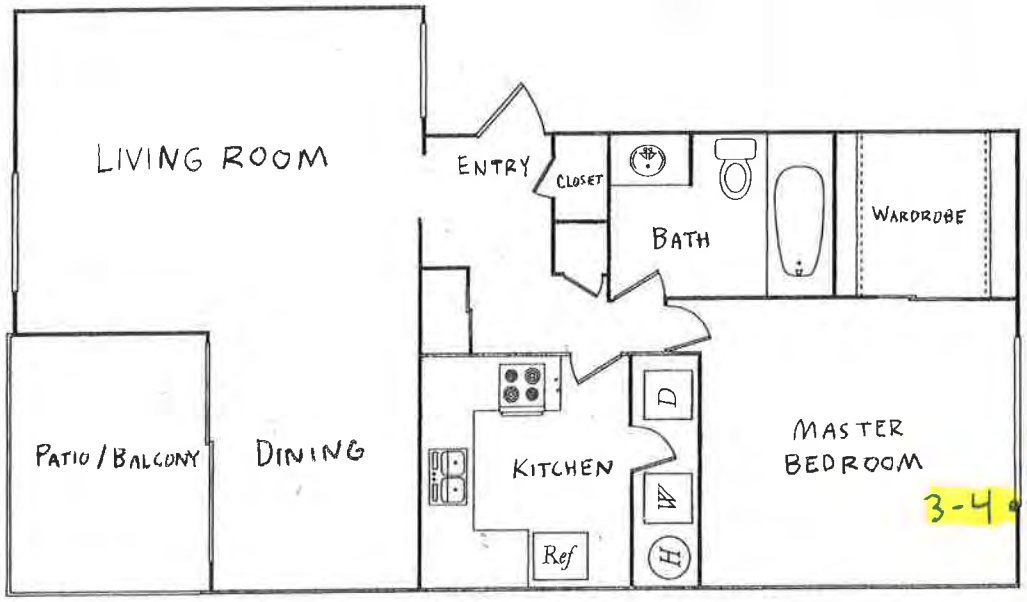
UNIT W-7



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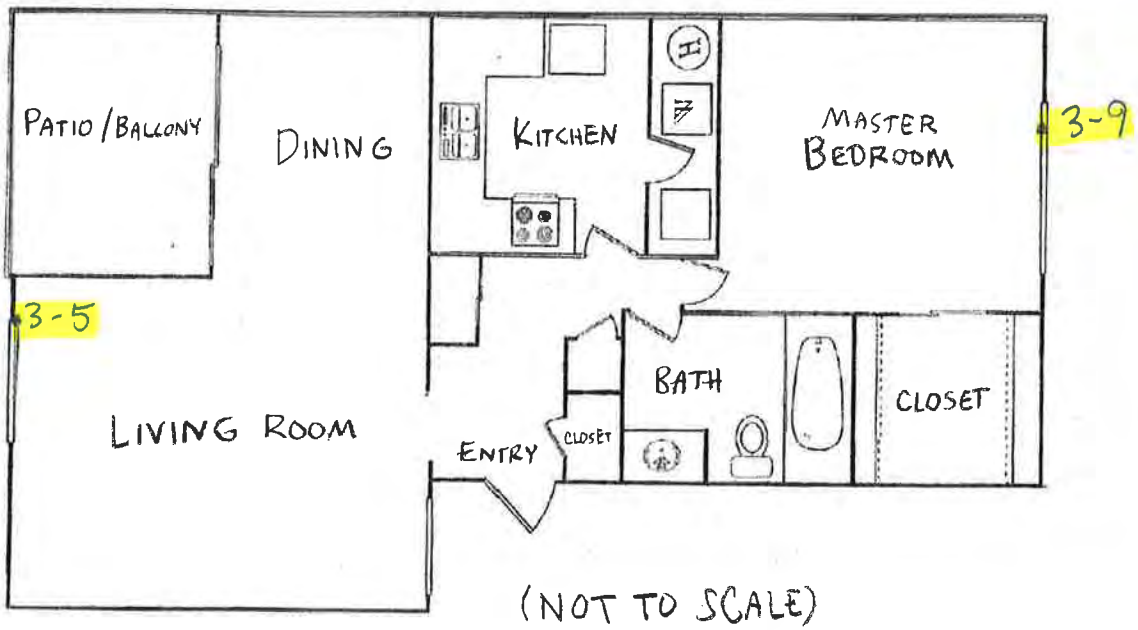
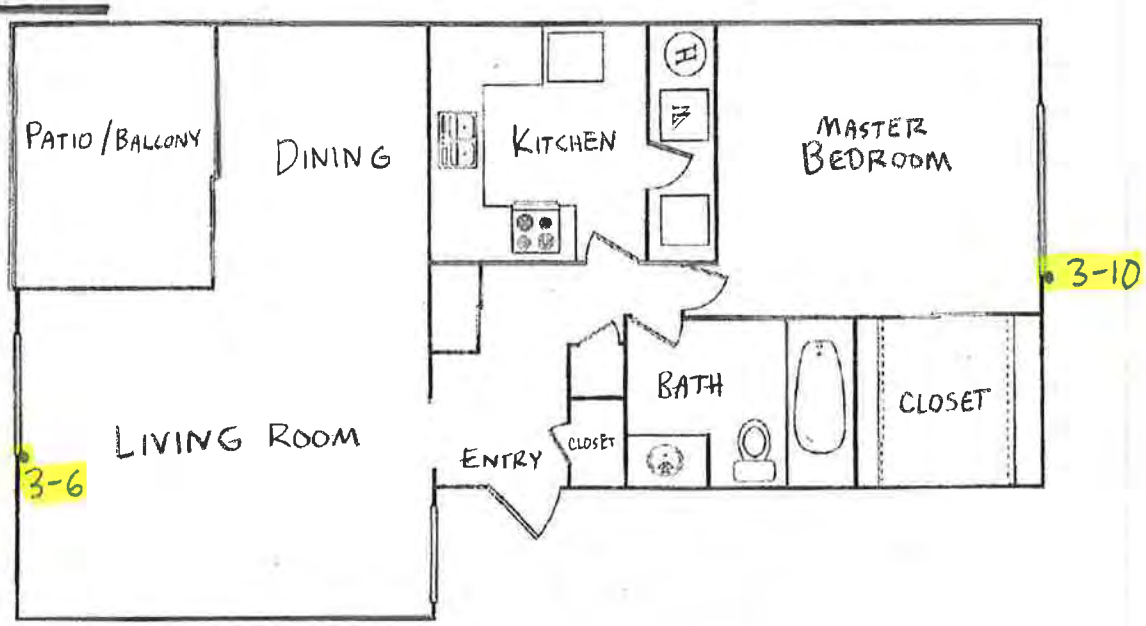
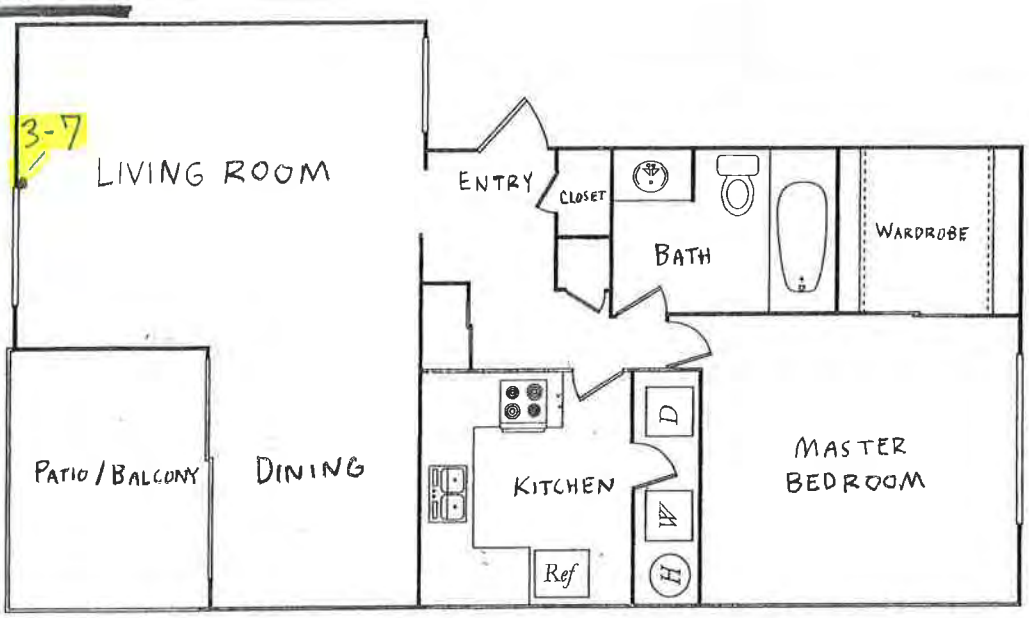


(NOT TO SCALE)

UNIT W-6



UNIT W-10



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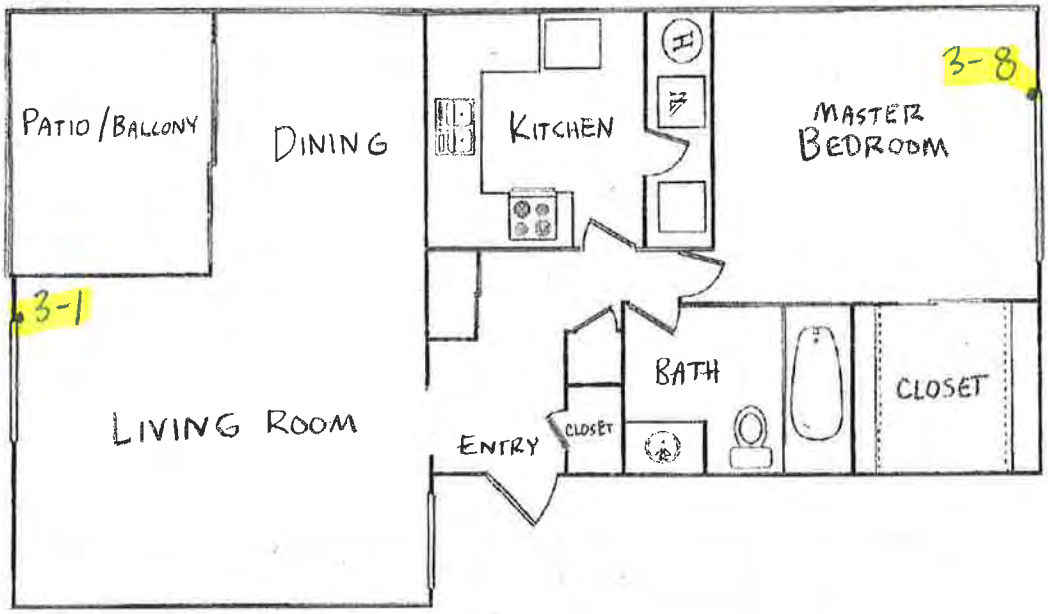
UNIT X-1



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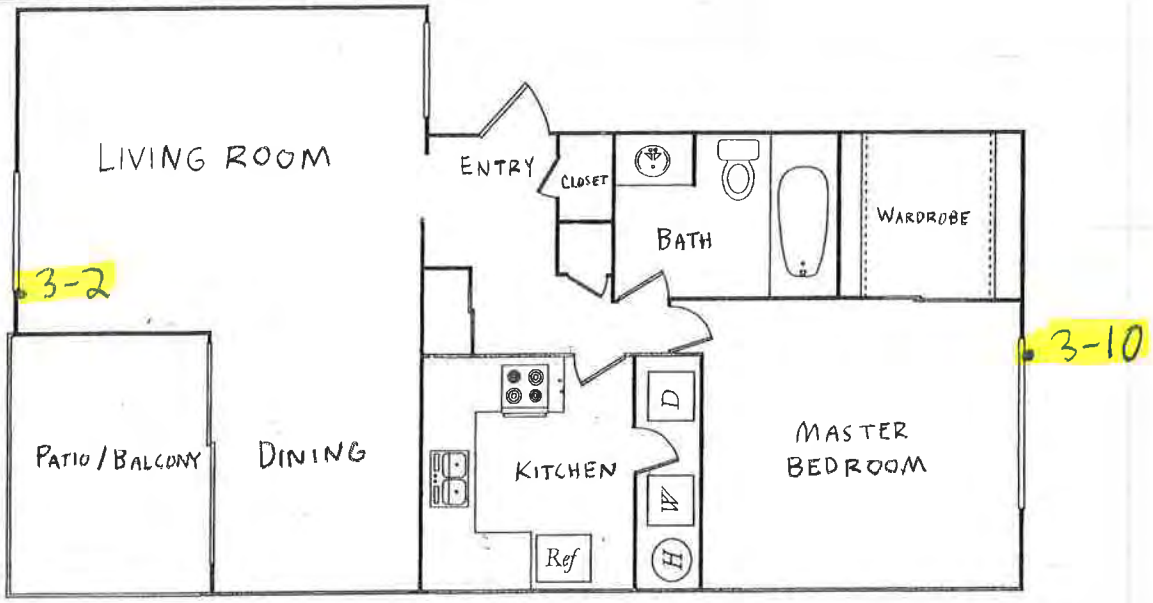

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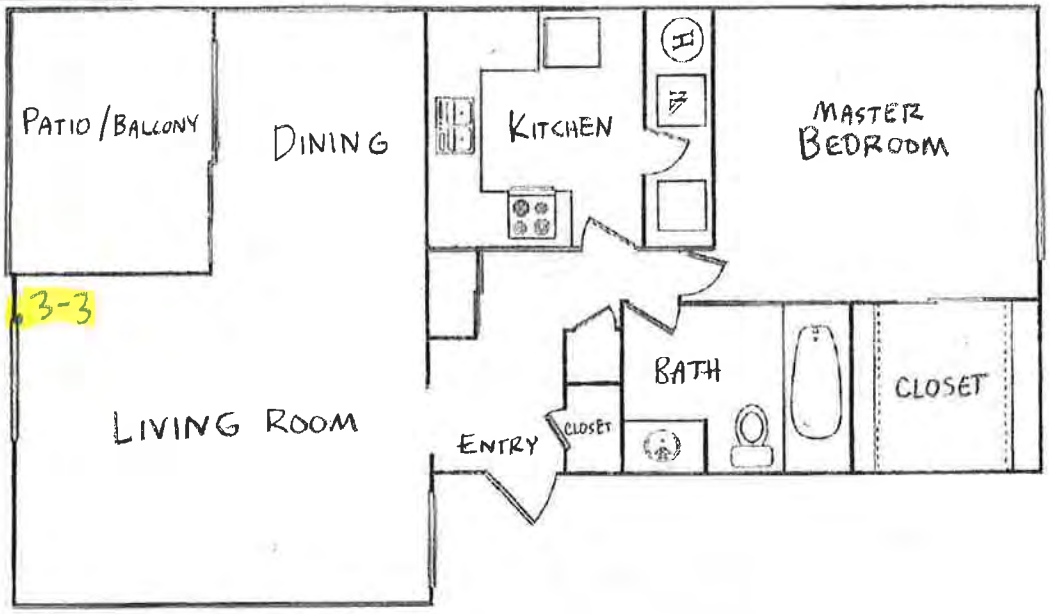
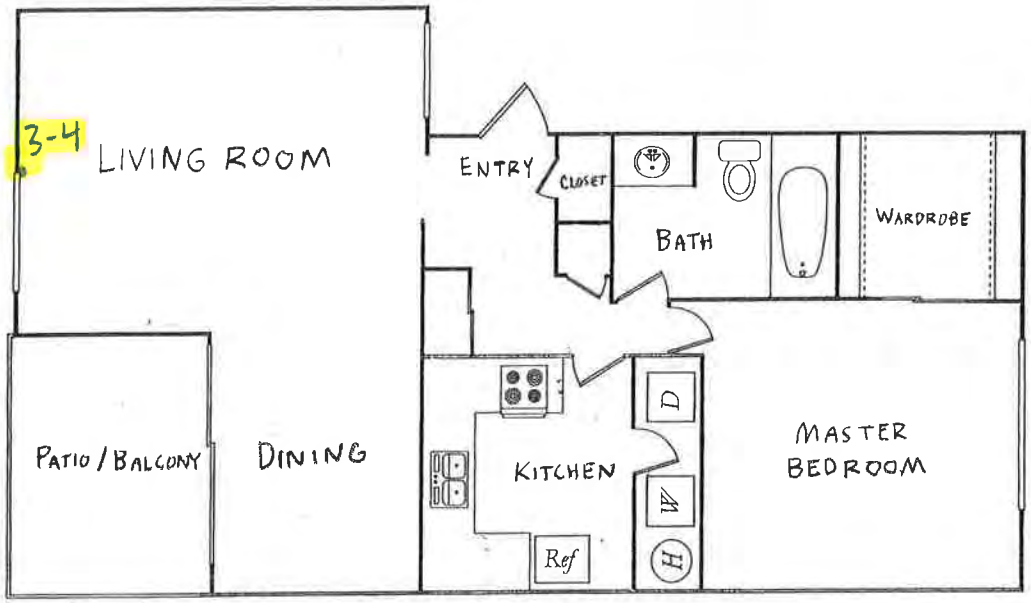
UNIT X-3



UNIT X-4



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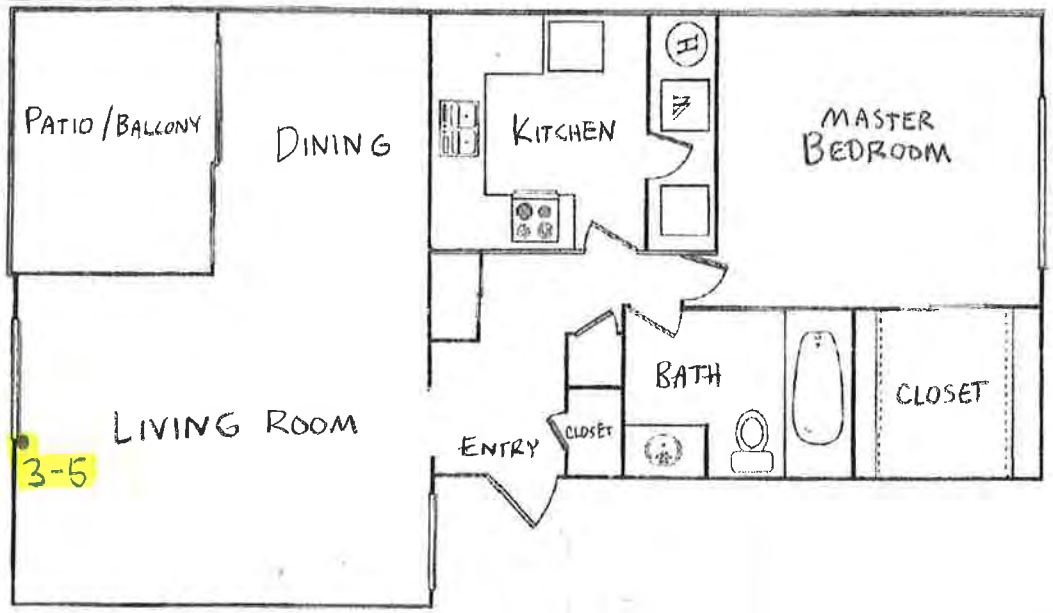
UNIT X-5



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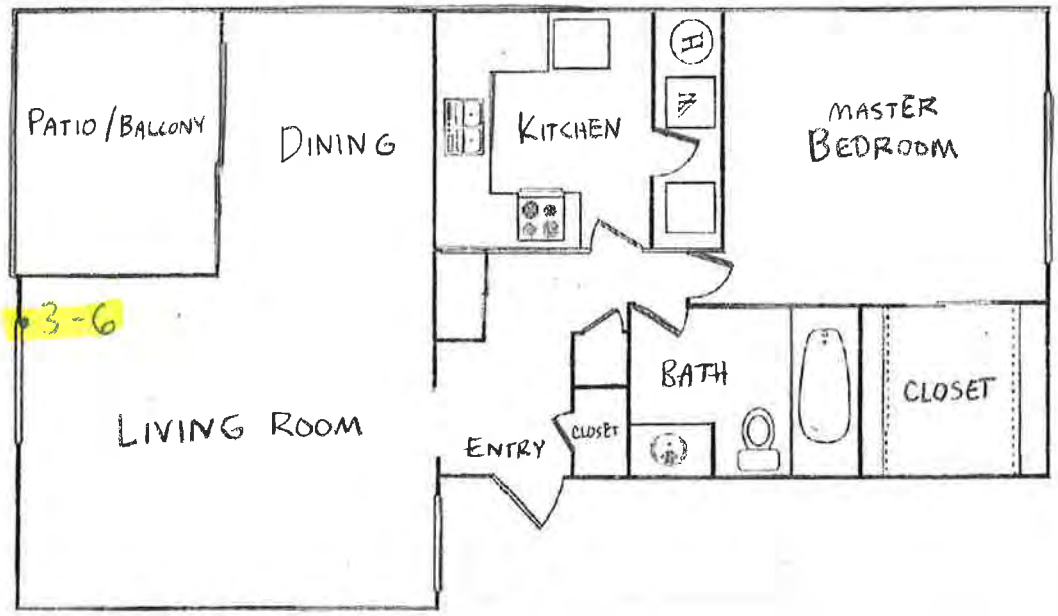

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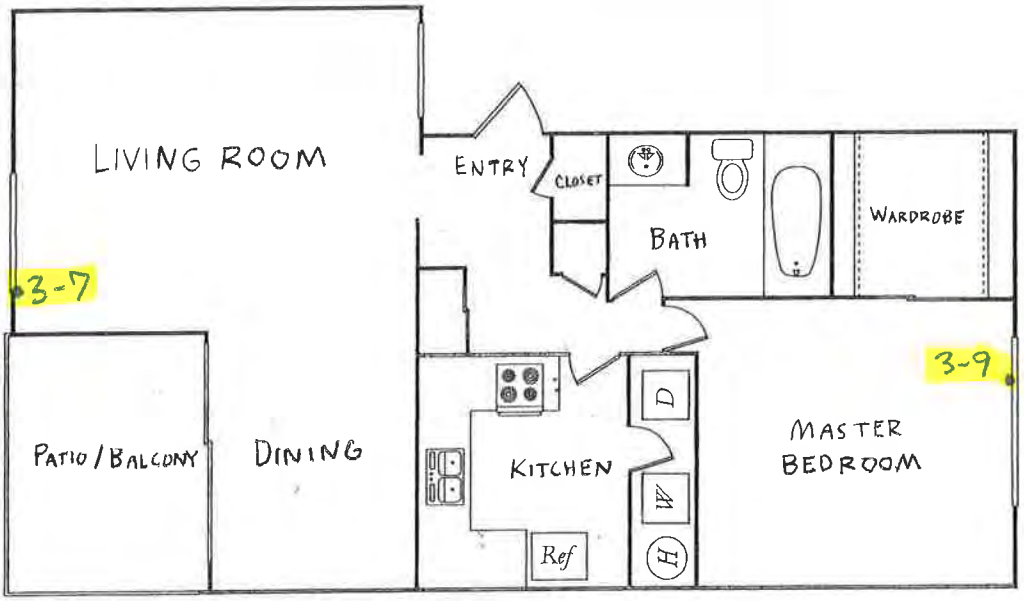
UNIT X-8



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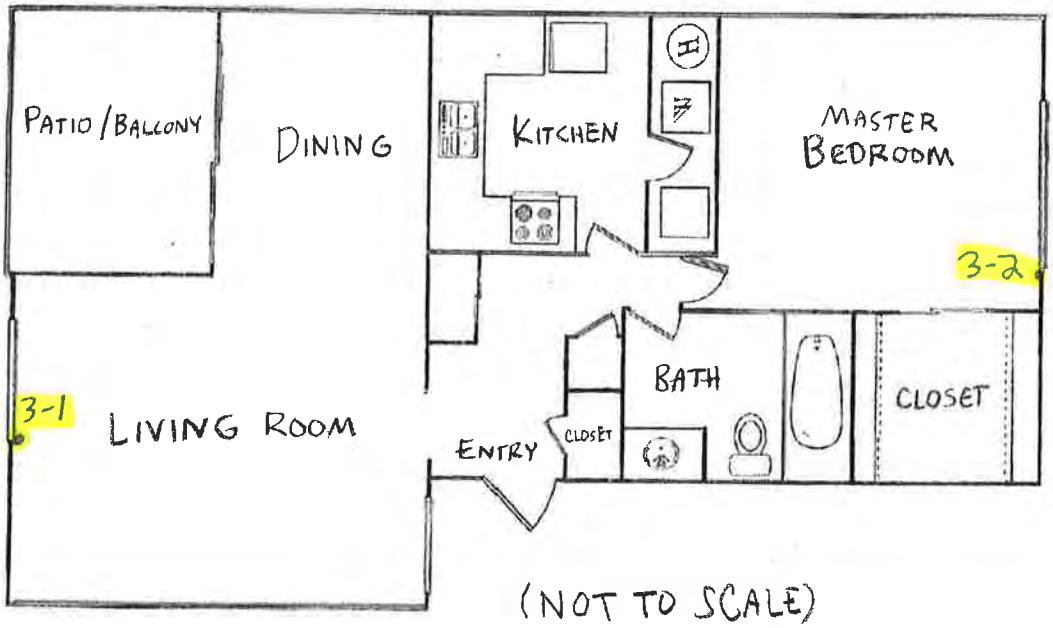

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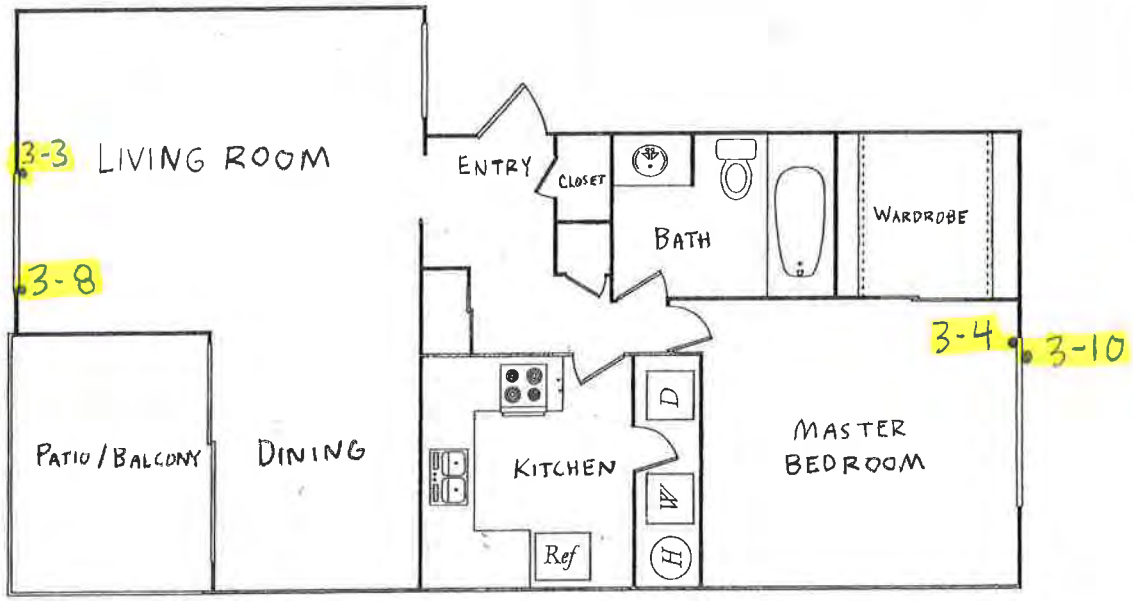
UNIT Y-2



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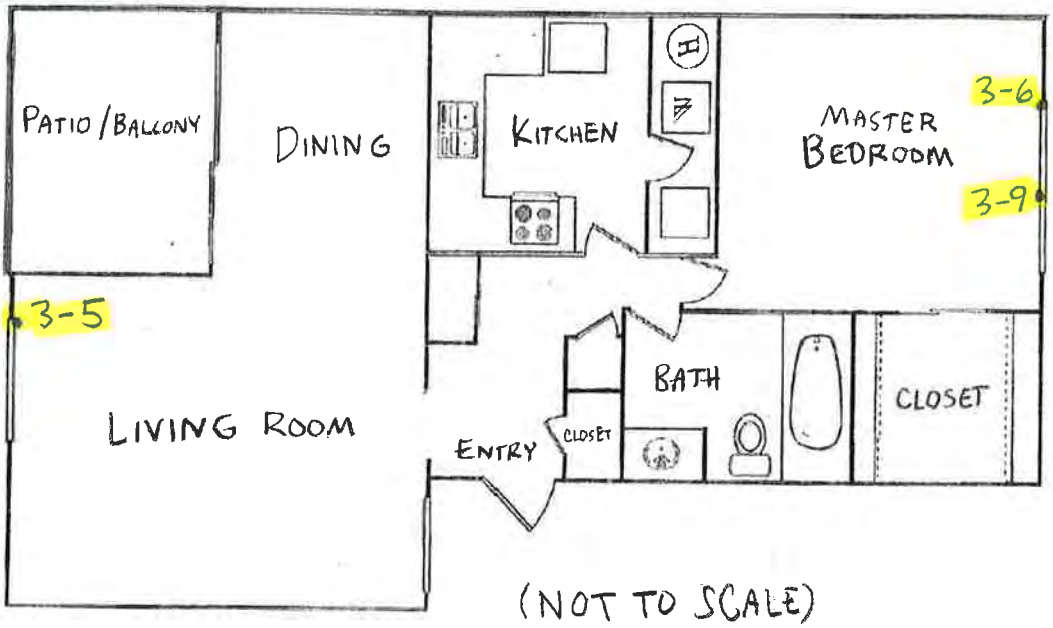

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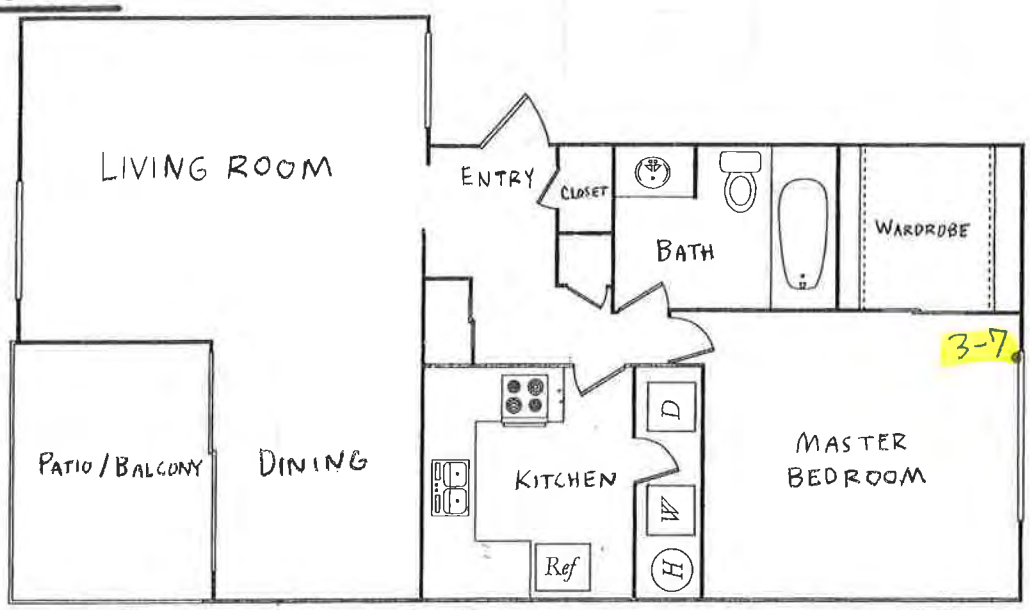
UNIT Y-4



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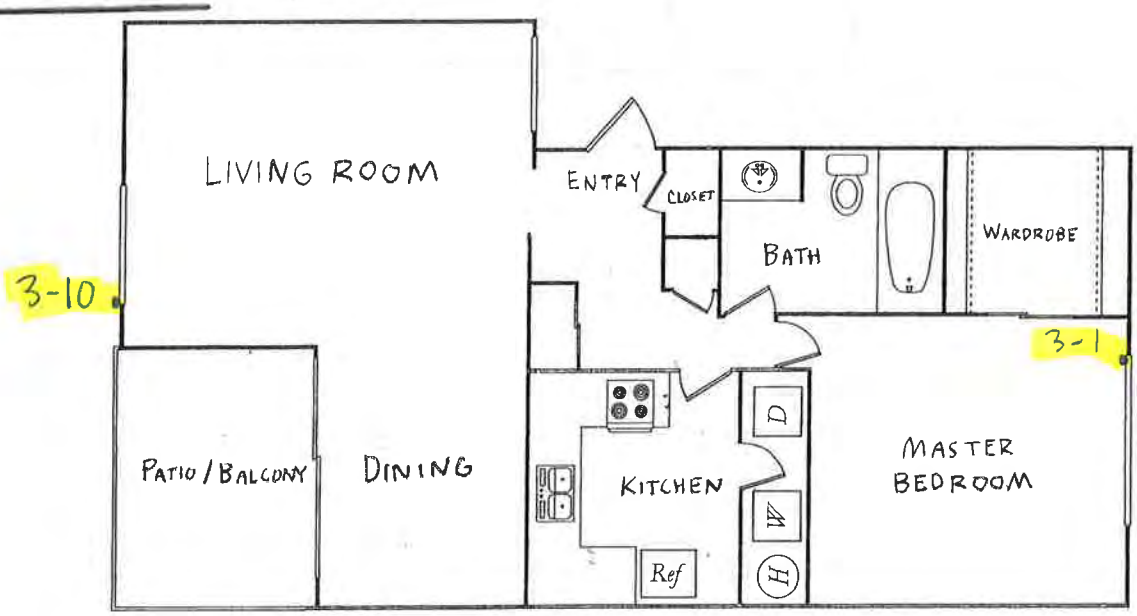

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Client King County Housing Authority - Hugh — Page 15 of 17

Location "Woodside East" - 16240 NE 14th St — Date 12/6/2019

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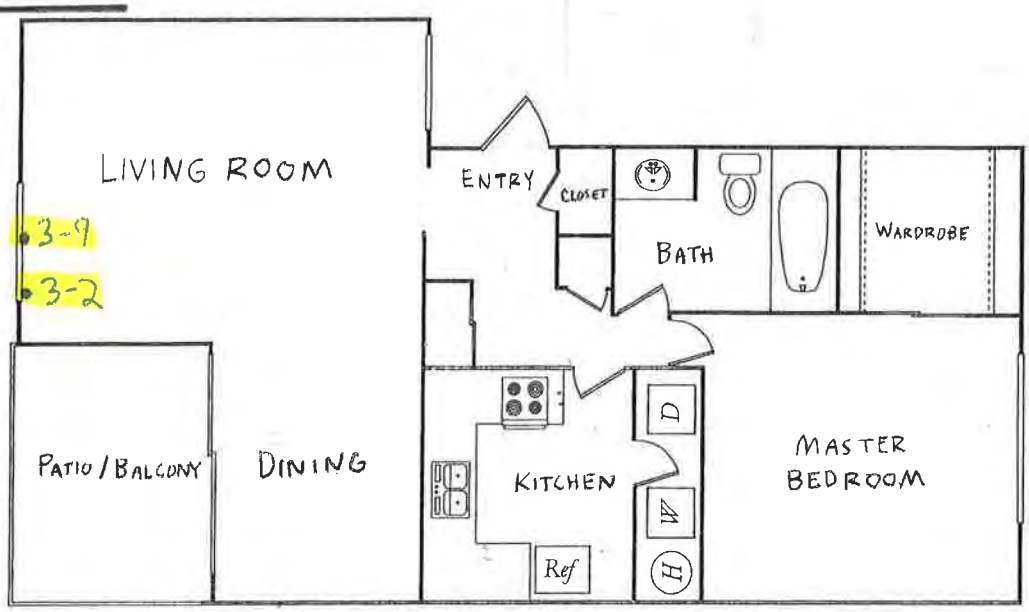
UNIT Z-2



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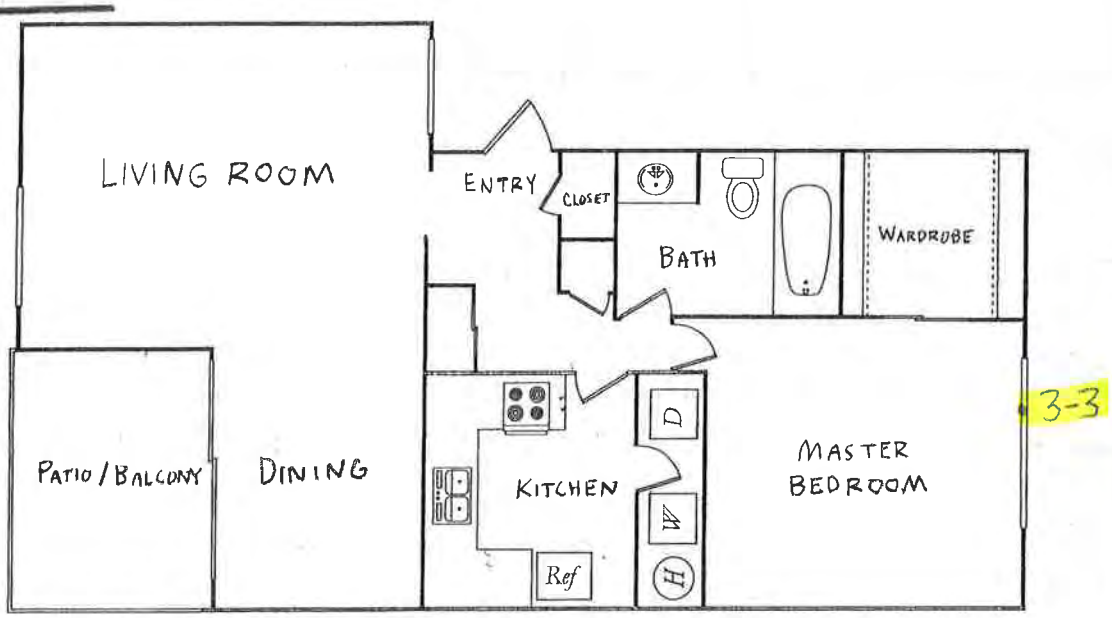

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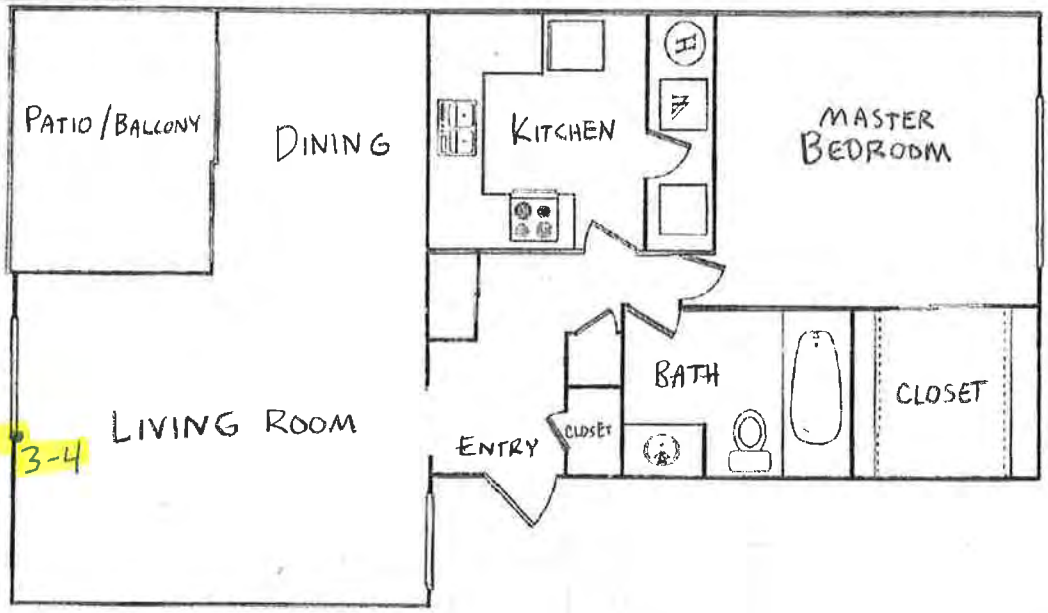
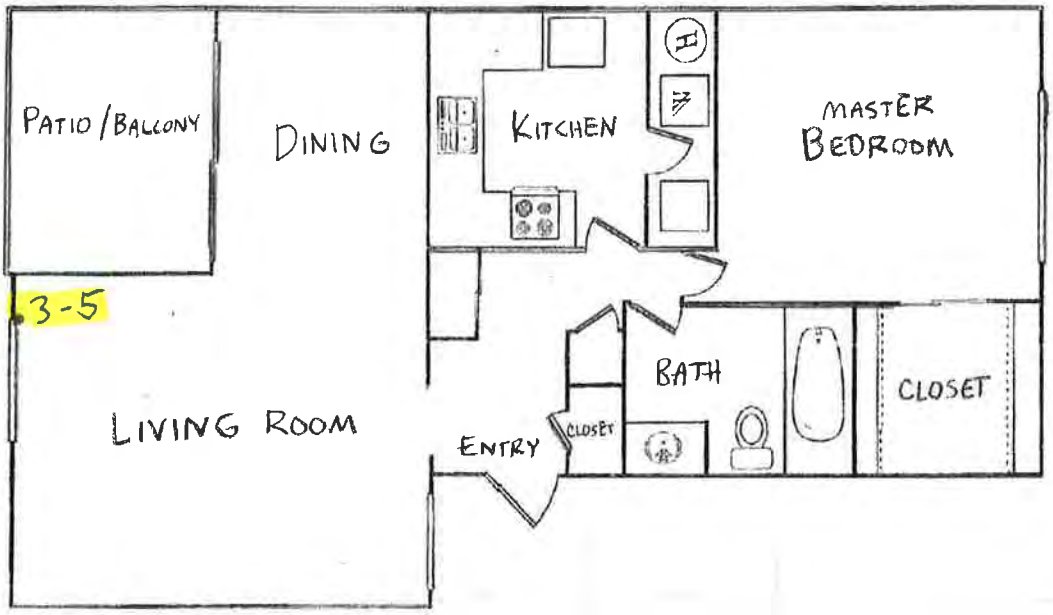
UNIT Z-5



UNIT Z-7



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NVL Project # **2019-0935**

Client King County Housing Authority - Hugh

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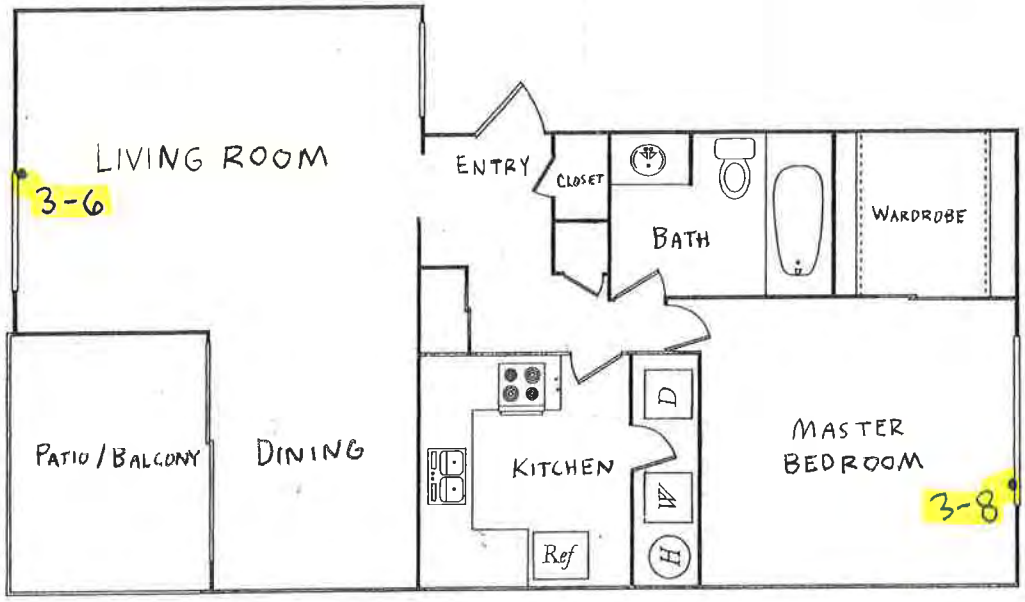
Location "Woodside East" - 16240 NE 14th St

Date 12/6/2019

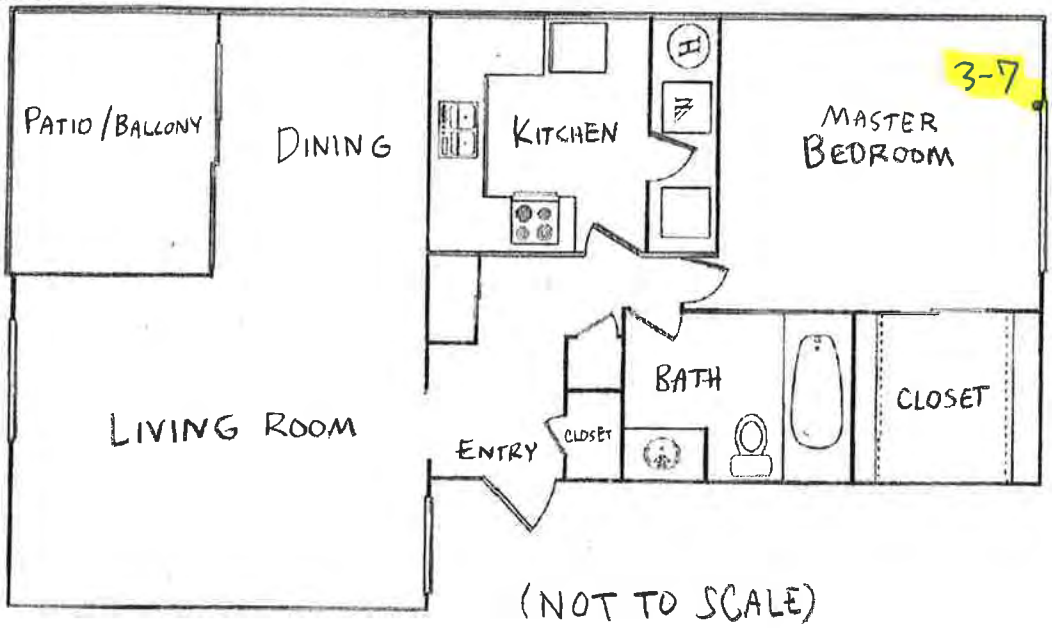
City Bellevue

Made by Tanveer Khan

UNIT Z-8



UNIT Z-9



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Appendix B

Laboratory Analysis Results

December 10, 2019

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Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1925770.00

Client Project: 2019-0935
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Dear Mr. Khan,

Enclosed please find test results for the 10 sample(s) submitted to our laboratory for analysis on 12/6/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

NVLAP
Lab Code: 102063-0

Enc.: Sample Results

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925770.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141565 **Client Sample #: 2019-0935-V-3-1**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
Paint		

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 16%	**None Detected ND**
	Glass fibers 3%	

Lab ID: 19141566 **Client Sample #: 2019-0935-V-3-2**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
Paint		

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
	Glass fibers 3%	

Lab ID: 19141567 **Client Sample #: 2019-0935-V-3-3**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925770.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	Cellulose <1%	**None Detected ND**
	Paint		
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
		Glass fibers 4%	

Lab ID: 19141568 **Client Sample #: 2019-0935-V-3-4**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
		Glass fibers 4%	

Lab ID: 19141569 **Client Sample #: 2019-0935-V-3-5**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASB-02

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925770.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose	14%	**None Detected ND**
	Glass fibers	3%	

Lab ID: 19141570 **Client Sample #: 2019-0935-V-3-6**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	None Detected	ND	**None Detected ND**
Paint			

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose	15%	**None Detected ND**
	Glass fibers	3%	

Lab ID: 19141571 **Client Sample #: 2019-0935-V-3-7**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	None Detected	ND	**None Detected ND**
Paint			

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose	13%	**None Detected ND**
	Glass fibers	4%	

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925770.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141572 **Client Sample #: 2019-0935-V-3-8**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** White soft material with paint and debris

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
Paint, Debris		

Lab ID: 19141573 **Client Sample #: 2019-0935-V-3-9**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** Black soft material (on wood)

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Binder/Filler, Fine particles, Wood flakes	Cellulose 6%	**None Detected ND**

Lab ID: 19141574 **Client Sample #: 2019-0935-V-3-10**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White soft material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** Black soft material (on wood)

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Binder/Filler, Fine particles, Wood flakes	Cellulose 4%	**None Detected ND**

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

NVL

Company	NVL Field Services Division	**NVL Batch Number**	**1925770.00**
Address	4708 Aurora Ave. N.	**TAT**	2 Days **AH** No
	Seattle, WA 98103	**Rush TAT**	
Project Manager	Mr. Tanveer Khan	**Due Date**	12/10/2019 **Time** 4:00 PM
Phone	(206) 547-0100	**Email**	tanveer.k@nvllabs.com
Cell	(206) 799-2916	**Fax**	(206) 634-1936

Project Name/Number: 2019-0935 **Project Location:** "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 10 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19141565	2019-0935-V-3-1		A
2	19141566	2019-0935-V-3-2		A
3	19141567	2019-0935-V-3-3		A
4	19141568	2019-0935-V-3-4		A
5	19141569	2019-0935-V-3-5		A
6	19141570	2019-0935-V-3-6		A
7	19141571	2019-0935-V-3-7		A
8	19141572	2019-0935-V-3-8		A
9	19141573	2019-0935-V-3-9		A
10	19141574	2019-0935-V-3-10		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/6/19	1600
Analyzed by	Akane Yoshikawa		NVL	12/10/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/6/2019
Time: 5:10 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

1925770

LABORATORY · MANAGEMENT · TRAINING

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Woodside East" - 16240 NE 14th St
Bellevue, WA 98008

NVL Batch Number
Client Job Number 2019-0935
Total Samples 10
Turn Around Time ☐ 1 Hr ☐ 2 Hrs ☐ 4 Hrs ☐ 6 Hrs ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days
Please call for TAT less than 24 Hrs

Phone: (206) 574-1230 **Fax:** (206) 357-2441
Email address hughw@kcha.org
Cell (206) 979-0826

☐ Asbestos Air ☐ PCM (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other
☒ Asbestos Bulk ☒ PLM (EPA/600/R-93/116) ☐ PLM (EPA Point Count) ☐ PLM (EPA Gravimetry) ☐ TEM BULK
☐ Mold/Fungus ☐ Mold Air ☐ Mold Bulk ☐ Rotometer Calibration

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Silica ☐ Nuisance Dust ☐ Respirable Dust ☐ Other (Specify) _____

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2019-0935-V-3-1		
2		3-2		
3		3-3		
4		3-4		
5		3-5		
6		3-6		
7		3-7		
8		3-8		
9		3-9		
10		3-10		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Tanveer Khan	NVL	12-6-19	9:30 AM
Relinquished by	TAN KHAN	Tanveer Khan	NVL	12-6-19	4:00 PM
Received by	Fatima Khan	Fatima Khan	NVL Labs	12/6/19	4:00
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

December 9, 2019

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1925769.00

Client Project: 2019-0935
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Dear Mr. Khan,

Enclosed please find test results for the 10 sample(s) submitted to our laboratory for analysis on 12/6/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

NVLAP
Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925769.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141555 **Client Sample #: 2019-0935-W-3-1**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose	25%	**None Detected ND**
	Glass fibers	5%	

Lab ID: 19141556 **Client Sample #: 2019-0935-W-3-2**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose	26%	**None Detected ND**
	Glass fibers	5%	

Lab ID: 19141557 **Client Sample #: 2019-0935-W-3-3**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925769.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose	26%	**None Detected ND**
	Glass fibers	4%	

Lab ID: 19141558 **Client Sample #: 2019-0935-W-3-4**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose	25%	**None Detected ND**
	Glass fibers	6%	

Lab ID: 19141559 **Client Sample #: 2019-0935-W-3-5**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose	26%	**None Detected ND**
	Glass fibers	6%	

Lab ID: 19141560 **Client Sample #: 2019-0935-W-3-6**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASB-02

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925769.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose 26%	**None Detected ND**
	Glass fibers 5%	

Lab ID: 19141561 **Client Sample #: 2019-0935-W-3-7**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Fine grains	Cellulose 26%	**None Detected ND**
	Glass fibers 5%	

Lab ID: 19141562 **Client Sample #: 2019-0935-W-3-8**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** White hard rubbery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint, Fine grains	None Detected ND	**None Detected ND**

Lab ID: 19141563 **Client Sample #: 2019-0935-W-3-9**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASB-02

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925769.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 1 **Description:** White hard rubbery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Paint, Fine grains	None Detected	ND	**None Detected ND**

Lab ID: 19141564 **Client Sample #: 2019-0935-W-3-10**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** Dark gray/white rubbery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASB-02

ASBESTOS LABORATORY SERVICES

NVL

Company	NVL Field Services Division	**NVL Batch Number**	**1925769.00**
Address	4708 Aurora Ave. N. Seattle, WA 98103	**TAT**	2 Days **AH** No
		Rush TAT	
Project Manager	Mr. Tanveer Khan	**Due Date**	12/10/2019 **Time** 4:00 PM
Phone	(206) 547-0100	**Email**	tanveer.k@nvllabs.com
Cell	(206) 799-2916	**Fax**	(206) 634-1936

Project Name/Number: 2019-0935 **Project Location:** "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 10 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19141555	2019-0935-W-3-1		A
2	19141556	2019-0935-W-3-2		A
3	19141557	2019-0935-W-3-3		A
4	19141558	2019-0935-W-3-4		A
5	19141559	2019-0935-W-3-5		A
6	19141560	2019-0935-W-3-6		A
7	19141561	2019-0935-W-3-7		A
8	19141562	2019-0935-W-3-8		A
9	19141563	2019-0935-W-3-9		A
10	19141564	2019-0935-W-3-10		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/6/19	1600
Analyzed by	Tiffany Querry		NVL	12/9/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/6/2019
Time: 5:03 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

1925769

INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Woodside East" - 16240 NE 14th St
Bellevue, WA 98008

NVL Batch Number
Client Job Number 2019-0935
Total Samples 10

Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days
☐ 2 Hrs ☐ 1 Day ☐ 4 Days
☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Email address huqhw@kcha.org

Phone: (206) 574-1230 **Fax:** (206) 357-2441 **Cell** (206) 979-0826

☐ **Asbestos Air** ☐ PCM (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other

☒ **Asbestos Bulk** ☒ PLM (EPA/600/R-93/116) ☐ PLM (EPA Point Count) ☐ PLM (EPA Gravimetry) ☐ TEM BULK

☐ **Mold/Fungus** ☐ Mold Air ☐ Mold Bulk ☐ **Rotometer Calibration**

METALS
☐ Total Metals
☐ TCLP
☐ Cr 6

Det. Limit
☐ FAA (ppm)
☐ ICP (ppm)
☐ GFAA (ppb)

Matrix
☐ Air Filter ☐ Soil
☐ Drinking water ☐ Paint Chips in %
☐ Dust/wipe (Area) ☐ Paint Chips in cm

RCRA Metals ☐ All 8
☐ Arsenic (As) ☐ Chromium (Cr
☐ Barium (Ba) ☐ Lead (Pb)
☐ Cadmium (Cd) ☐ Mercury (Hg)

Other Metals ☐ All 3
☐ Copper (Cu)
☐ Nickel (Ni)
☐ Zinc (Zn)

☐ **Other Types of Analysis** ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2019-0935-IN-3-1		
2		3-2		
3		3-3		
4		3-4		
5		3-5		
6		3-6		
7		3-7		
8		3-8		
9		3-9		
10		3-10		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Tanveer Khan	NVL	12-6-19	9:30AM
Relinquished by	TAN KHAN	Tanveer Khan	NVL	12-6-19	4:00 PM
Received by	Fatmata Barrie		NVL Labs	12/6/19	4:00p
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.

Results report to TAN

December 10, 2019

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1925771.00

Client Project: 2019-0935
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Dear Mr. Khan,

Enclosed please find test results for the 10 sample(s) submitted to our laboratory for analysis on 12/6/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

NVLAP
Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925771.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141575 **Client Sample #: 2019-0935-X-3-1**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected	ND	**None Detected ND**
	Paint			
Layer 2 of 3	**Description:** White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	Cellulose	9%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose	15%	**None Detected ND**
		Glass fibers	3%	

Lab ID: 19141576 **Client Sample #: 2019-0935-X-3-2**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected	ND	**None Detected ND**
	Paint			
Layer 2 of 3	**Description:** White compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	Cellulose	8%	**None Detected ND**

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925771.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 3 of 3 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
	Glass fibers 3%	

Lab ID: 19141577 **Client Sample #: 2019-0935-X-3-3**

Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	Cellulose 2%	**None Detected ND**
Paint		

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
	Glass fibers 3%	

Lab ID: 19141578 **Client Sample #: 2019-0935-X-3-4**

Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
Paint		

Layer 2 of 2 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	**Asbestos Type: %**
Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
	Glass fibers 3%	

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925771.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141579 **Client Sample #: 2019-0935-X-3-5**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	Cellulose <1%	**None Detected ND**
	Paint		
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
		Glass fibers 2%	

Lab ID: 19141580 **Client Sample #: 2019-0935-X-3-6**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	Cellulose 2%	**None Detected ND**
	Paint		
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 15%	**None Detected ND**
		Glass fibers 2%	

Lab ID: 19141581 **Client Sample #: 2019-0935-X-3-7**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925771.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		
Layer 2 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains, Calcareous particles	Cellulose 16%	**None Detected ND**
		Glass fibers 2%	

Lab ID: 19141582 **Client Sample #: 2019-0935-X-3-8**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1	**Description:** White soft material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	Cellulose <1%	**None Detected ND**
	Paint		

Lab ID: 19141583 **Client Sample #: 2019-0935-X-3-9**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1	**Description:** White soft material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		

Lab ID: 19141584 **Client Sample #: 2019-0935-X-3-10**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925771.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 1	**Description:** White soft sticky material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 12/10/2019
Reviewed by: Nick Ly **Date:** 12/10/2019

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

NVL

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number 1925771.00
TAT 2 Days **AH** No
Rush TAT
Due Date 12/10/2019 **Time** 4:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2019-0935 **Project Location:** "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 10 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19141575	2019-0935-X-3-1		A
2	19141576	2019-0935-X-3-2		A
3	19141577	2019-0935-X-3-3		A
4	19141578	2019-0935-X-3-4		A
5	19141579	2019-0935-X-3-5		A
6	19141580	2019-0935-X-3-6		A
7	19141581	2019-0935-X-3-7		A
8	19141582	2019-0935-X-3-8		A
9	19141583	2019-0935-X-3-9		A
10	19141584	2019-0935-X-3-10		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/6/19	1600
Analyzed by	Akane Yoshikawa		NVL	12/10/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/6/2019
Time: 5:18 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

1925771

INDUSTRIAL HYGIENE SERVICES
LABORATORY · MANAGEMENT · TRAINING

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Woodside East" - 16240 NE 14th St
Bellevue, WA 98008

NVL Batch Number
Client Job Number 2019-0935
Total Samples 10

Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☒ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Email address hughw@kcha.org
Phone: (206) 574-1230 **Fax:** (206) 357-2441 **Cell** (206) 979-0826

☐ **Asbestos Air** ☐ PCM (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other
☒ **Asbestos Bulk** ☒ PLM (EPA/600/R-93/116) ☐ PLM (EPA Point Count) ☐ PLM (EPA Gravimetry) ☐ TEM BULK
☐ **Mold/Fungus** ☐ Mold Air ☐ Mold Bulk ☐ **Rotometer Calibration**

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppb)	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

☐ **Other Types of Analysis** ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2019-0935-X-3-1		
2		3-2		
3		3-3		
4		3-4		
5		3-5		
6		3-6		
7		3-7		
8		3-8		
9		3-9		
10		3-10		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	TAN KHAN	Tanveer Khan	NVL	12-6-19	9:30 AM
Relinquished by	TAN KHAN	Tanveer Khan	NVL	12-6-19	4:00 PM
Received by	Rahmatullah		NVL Labs	12/6/19	4:40
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to TAN

December 9, 2019

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1925772.00

Client Project: 2019-0935
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Dear Mr. Khan,

Enclosed please find test results for the 10 sample(s) submitted to our laboratory for analysis on 12/6/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

NVLAP
Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925772.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141585 **Client Sample #: 2019-035-Y-3-1**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 4	**Description:** White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Off-white compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose	18%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	15%	**None Detected ND**
Layer 4 of 4	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	24%	**None Detected ND**
		Glass fibers	2%	

Lab ID: 19141586 **Client Sample #: 2019-035-Y-3-2**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 4	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Off-white compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose	17%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925772.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 3 of 4	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	16%	**None Detected ND**
Layer 4 of 4	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	5%	

Lab ID: 19141587 **Client Sample #: 2019-035-Y-3-3**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	19%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	5%	

Lab ID: 19141588 **Client Sample #: 2019-035-Y-3-4**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** Off-white compacted powdery material with layered paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925772.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	13%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	22%	**None Detected ND**
		Glass fibers	4%	

Lab ID: 19141589 **Client Sample #: 2019-035-Y-3-5**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	13%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	4%	

Lab ID: 19141590 **Client Sample #: 2019-035-Y-3-6**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925772.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	17%	**None Detected ND**
Layer 3 of 3	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	5%	

Lab ID: 19141591 **Client Sample #: 2019-035-Y-3-7**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 4	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Off-white compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose	15%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	19%	**None Detected ND**
Layer 4 of 4	**Description:** White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	22%	**None Detected ND**
		Glass fibers	5%	

Lab ID: 19141592 **Client Sample #: 2019-035-Y-3-8**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925772.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 1 **Description:** Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Fine particles, Mastic/Binder	Synthetic fibers <1%	**None Detected ND**
Wood flakes	Wood fibers 2%	

Lab ID: 19141593 **Client Sample #: 2019-035-Y-3-9**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** Off-white soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Fine particles, Insect parts	Cellulose <1%	**None Detected ND**
	Synthetic fibers <1%	
	Hair <1%	
	Spider silk <1%	

Lab ID: 19141594 **Client Sample #: 2019-035-Y-3-10**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** Dark gray soft rubbery material with layered paint (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Paint, Rubber/Binder, Wood	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

NVL

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number **1925772.00**
TAT 2 Days AH No
Rush TAT
Due Date 12/10/2019 **Time** 4:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2019-0935 **Project Location:** "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 10 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19141585	2019-035-Y-3-1		A
2	19141586	2019-035-Y-3-2		A
3	19141587	2019-035-Y-3-3		A
4	19141588	2019-035-Y-3-4		A
5	19141589	2019-035-Y-3-5		A
6	19141590	2019-035-Y-3-6		A
7	19141591	2019-035-Y-3-7		A
8	19141592	2019-035-Y-3-8		A
9	19141593	2019-035-Y-3-9		A
10	19141594	2019-035-Y-3-10		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/6/19	1600
Analyzed by	Alla Prysyazhnyuk		NVL	12/9/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/6/2019
Time: 5:25 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

1925772

LABORATORY + MANAGEMENT + TRAINING

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Woodside East" - 16240 NE 14th St
Bellevue, WA 98008

NVL Batch Number
Client Job Number 2019-0935
Total Samples 10
Turn Around Time ☐ 1 Hr ☐ 2 Hrs ☐ 4 Hrs ☐ 6 Hrs ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days
Please call for TAT less than 24 Hrs

Email address hughw@kcha.org
Phone: (206) 574-1230 Fax: (206) 357-2441 Cell (206) 979-0826

☐ Asbestos Air ☐ PCM (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other
☒ Asbestos Bulk ☒ PLM (EPA/600/R-93/116) ☐ PLM (EPA Point Count) ☐ PLM (EPA Gravimetry) ☐ TEM BULK
☐ Mold/Fungus ☐ Mold Air ☐ Mold Bulk ☐ Rotometer Calibration

METALS
☐ Total Metals
☐ TCLP
☐ Cr 6

Det. Limit
☐ FAA (ppm)
☐ ICP (ppm)
☐ GFAA (ppb)

Matrix
☐ Air Filter
☐ Drinking water
☐ Dust/wipe (Area)
☐ Soil
☐ Paint Chips in %
☐ Paint Chips in cm

RCRA Metals
☐ Arsenic (As)
☐ Barium (Ba)
☐ Cadmium (Cd)
☐ All 8
☐ Chromium (Cr
☐ Lead (Pb)
☐ Mercury (Hg)

Other Metals
☐ All 3
☐ Copper (Cu)
☐ Nickel (Ni)
☐ Zinc (Zn)

☐ Other Types of Analysis ☐ Fiberglass ☐ Silica ☐ Nuisance Dust ☐ Respirable Dust ☐ Other (Specify) _____

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2019-0935 Y-3-1		
2		Y-3-2		
3		Y-3-3		
4		Y-3-4		
5		Y-3-5		
6		Y-3-6		
7		Y-3-7		
8		Y-3-8		
9		Y-3-9		
10		Y-3-10		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Jason Lindahl		NVL	12/6/19	9:30
Relinquished by	Jason Lindahl		NVL	12/6/19	4:00
Received by	Federal Express		NVL Labs	12/6/19	4:00pm
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to

December 9, 2019

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Tanveer Khan
NVL Field Services Division
4708 Aurora Ave. N.
Seattle, WA 98103

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1925773.00

Client Project: 2019-0935
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Dear Mr. Khan,

Enclosed please find test results for the 10 sample(s) submitted to our laboratory for analysis on 12/6/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

NVLAP
Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925773.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141595 **Client Sample #: 2019-0935-Z-3-1**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 4	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**
Layer 2 of 4	**Description:** White thin compacted powdery material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose 16%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white thin fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 13%	**None Detected ND**
Layer 4 of 4	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine grains, Fine particles, Gypsum/Binder	Cellulose 22%	**None Detected ND**
		Glass fibers 5%	

Lab ID: 19141596 **Client Sample #: 2019-0935-Z-3-2**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** White compacted powdery material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 16%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925773.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 3 of 3	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	18%	**None Detected ND**
		Glass fibers	3%	

Lab ID: 19141597 **Client Sample #: 2019-0935-Z-3-3**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 4	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Off-white compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose	17%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	18%	**None Detected ND**
Layer 4 of 4	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	3%	

Lab ID: 19141598 **Client Sample #: 2019-0935-Z-3-4**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** Trace thin white bumpy compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925773.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	13%	**None Detected ND**
Layer 3 of 3	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	22%	**None Detected ND**
		Glass fibers	5%	

Lab ID: 19141599 **Client Sample #: 2019-0935-Z-3-5**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 4	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Off-white thin compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose	17%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	13%	**None Detected ND**
Layer 4 of 4	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	20%	**None Detected ND**
		Glass fibers	2%	

Lab ID: 19141600 **Client Sample #: 2019-0935-Z-3-6**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASB-02

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925773.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 4	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 4	**Description:** Off-white thin compacted powdery material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles	Cellulose	15%	**None Detected ND**
Layer 3 of 4	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	16%	**None Detected ND**
Layer 4 of 4	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	23%	**None Detected ND**
		Glass fibers	5%	

Lab ID: 19141601 **Client Sample #: 2019-0935-Z-3-7**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 3	**Description:** Off-white compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Calcareous binder, Calcareous particles, Paint	None Detected	ND	**None Detected ND**
Layer 2 of 3	**Description:** Off-white thin fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler	Cellulose	15%	**None Detected ND**
Layer 3 of 3	**Description:** Off-white chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose	22%	**None Detected ND**
		Glass fibers	5%	

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASB-02

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

NVL

Client: NVL Field Services Division
Address: 4708 Aurora Ave. N.
Seattle, WA 98103

Attention: Mr. Tanveer Khan
Project Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Batch #: 1925773.00
Client Project #: 2019-0935
Date Received: 12/6/2019
Samples Received: 10
Samples Analyzed: 10
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19141602 **Client Sample #: 2019-0935-Z-3-8**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** Off-white soft material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Fine particles, Binder/Filler, Paint	Wood fibers <1%	**None Detected ND**

Lab ID: 19141603 **Client Sample #: 2019-0935-Z-3-9**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 1 **Description:** Off-white soft material with paint (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Fine particles, Binder/Filler, Paint	Wood fibers <1%	**None Detected ND**
Wood		

Lab ID: 19141604 **Client Sample #: 2019-0935-Z-3-10**
Location: "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Layer 1 of 2 **Description:** Off-white soft material with yellow paint (on wood)

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Calcareous particles, Paint	None Detected ND	**None Detected ND**
Wood		

Layer 2 of 2 **Description:** Black asphaltic fibrous felt

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Asphalt/Binder	Cellulose 65%	**None Detected ND**

Sampled by: Client
Analyzed by: Alla Prysyazhnyuk **Date:** 12/09/2019
Reviewed by: Matt Macfarlane **Date:** 12/09/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

NVL

Company NVL Field Services Division
Address 4708 Aurora Ave. N.
Seattle, WA 98103
Project Manager Mr. Tanveer Khan
Phone (206) 547-0100
Cell (206) 799-2916

NVL Batch Number 1925773.00
TAT 2 Days **AH** No
Rush TAT
Due Date 12/10/2019 **Time** 4:00 PM
Email tanveer.k@nvllabs.com
Fax (206) 634-1936

Project Name/Number: 2019-0935 **Project Location:** "Woodside East" - 16240 NE 14th St Bellevue, WA 98008

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 10 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19141595	2019-0935-Z-3-1		A
2	19141596	2019-0935-Z-3-2		A
3	19141597	2019-0935-Z-3-3		A
4	19141598	2019-0935-Z-3-4		A
5	19141599	2019-0935-Z-3-5		A
6	19141600	2019-0935-Z-3-6		A
7	19141601	2019-0935-Z-3-7		A
8	19141602	2019-0935-Z-3-8		A
9	19141603	2019-0935-Z-3-9		A
10	19141604	2019-0935-Z-3-10		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Fatima Khan		NVL	12/6/19	1600
Analyzed by	Alla Prysyazhnyuk		NVL	12/9/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 12/6/2019
Time: 5:30 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY SAMPLE LOG

1925773

LABORATORY • MANAGEMENT • TRAINING

Client NVL Laboratories Inc
Street 4708 Aurora Ave N
Seattle, WA 98103
Project Manager Syed Hasan
Project Location "Woodside East" - 16240 NE 14th St
Bellevue, WA 98008

Phone: (206) 574-1230 **Fax:** (206) 357-2441

NVL Batch Number
Client Job Number 2019-0935
Total Samples 10

Turn Around Time ☐ 1 Hr ☐ 2 Hrs ☐ 4 Hrs ☐ 6 Hrs ☐ 1 Day ☒ 2 Days ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days
Please call for TAT less than 24 Hrs

Email address huqhw@kcha.org
Cell (206) 979-0826

☐ **Asbestos Air** ☐ PCM (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other

☒ **Asbestos Bulk** ☒ PLM (EPA/600/R-93/116) ☐ PLM (EPA Point Count) ☐ PLM (EPA Gravimetry) ☐ TEM BULK

☐ **Mold/Fungus** ☐ Mold Air ☐ Mold Bulk ☐ **Rotometer Calibration**

METALS
☐ Total Metals
☐ TCLP
☐ Cr 6

Det. Limit
☐ FAA (ppm)
☐ ICP (ppm)
☐ GFAA (ppb)

Matrix
☐ Air Filter ☐ Soil
☐ Drinking water ☐ Paint Chips in %
☐ Dust/wipe (Area) ☐ Paint Chips in cm

RCRA Metals ☐ All 8
☐ Arsenic (As) ☐ Chromium (Cr
☐ Barium (Ba) ☐ Lead (Pb)
☐ Cadmium (Cd) ☐ Mercury (Hg)

Other Metals
☐ **All 3**
☐ Copper (Cu)
☐ Nickel (Ni)
☐ Zinc (Zn)

☐ **Other Types of Analysis** ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments	A/R
1		2019-0935-Z-31		
2		Z-3-2		
3		Z-3-3		
4		Z-3-4		
5		Z-3-5		
6		Z-3-6		
7		Z-3-7		
8		Z-3-8		
9		Z-3-9		
10		Z-3-10		
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Jason Lindahl		NVL	12/6/19	9:30
Relinquished by	Jason Lindahl		NVL	12/6/19	4:00
Received by	Edmadia		NWLabs	12/6/19	4:00p
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Results report to

Appendix C

AHERA Certifications & Laboratory Qualification

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102063-0

NVL Laboratories, Inc.

Seattle, WA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2019-10-01 through 2020-09-30

Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103
Mr. Nghiep Vi Ly
Phone: 206-547-0100 Fax: 206-634-1936
Email: nick.l@nvllabs.com
http://www.nvllabs.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 102063-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program

Effective 2019-10-01 through 2020-09-30

Certificate of Completion

This is to certify that

Jason R. Lindahl

has satisfactorily completed
4 hours of refresher training as an

AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

173191
Certificate Number

ARGUS PACIFIC
TRAINING • CONSULTING
A Terracon COMPANY

May 15, 2019 Expires in 1 year
Date(s) of Training

Exam Score: N/A
(if applicable)

Instructor

ARGUS PACIFIC, INC / 21905 64th AVE W, SUITE 100 / MOUNTLAKE TERRACE, WASHINGTON 98043 / 206.285.3373 / ARGUSPACIFIC.COM

Certificate of Completion

This is to certify that

Tanveer E. Khan

has satisfactorily completed
4 hours of refresher training as an

AHERA Building Inspector

to comply with the training requirements of
TSCA Title II, 40 CFR 763 (AHERA)

EPA Provider # 1085

172872
Certificate Number

ARGUS PACIFIC
TRAINING • CONSULTING
A Terracon COMPANY

Apr 24, 2019 Expires in 1 year.
Date(s) of Training

Exam Score:
(if applicable)

Instructor

ARGUS PACIFIC, INC / 21905 64th AVE W, SUITE 100 / MOUNTLAKE TERRACE, WASHINGTON 98043 / 206.285.3373 / ARGUSPACIFIC.COM

NORTHERN
INDUSTRIAL HYGIENE, INC.

Billings, Montana • Helena, Montana • Seattle Washington

Exterior Lead-Based Paint Inspection

Woodside East Apartment Building
16240 Northeast 14th Street
Bellevue, WA 98008

Inspection Performed For:

King County Housing Authority
600 Andover Park West
Seattle, WA 98188

Inspection Performed By:

Lance Kiblinger, EPA Certified Lead Risk Assessor
Certification # WA-03-0720044884 (Expires 07/18/2004)

Northern Industrial Hygiene, Inc.
215 Southwest 153rd Street
Burien, WA 9866

Inspection Date: June 22, 2004
Report Date: June 27, 2004
NIH#: 235-002

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1.0 INSPECTION SUMMARY

On June 22nd, 23rd, and 24th, 2003, Lance Kiblinger of Northern Industrial Hygiene, Inc. (NIH) conducted a lead-based paint inspection of the exterior building components on the buildings located at the Woodside East Apartment complex located at 16240 Northeast 14th Street, Bellevue, WA. Mr. Kiblinger is an EPA Certified Lead Risk Assessor (Certificate #WA-03-0720044884).

The structures are wood framed construction with exterior wood siding, and pitched asphalt roofing. On the property were found 24 buildings the housed multiple apartment units with laundry facilities attached to the buildings, one stand alone laundry facility, a small section of a painted wood fence, small wood enclosures that were occupied by commercial size garbage disposal containers, and a swing set that was painted green in the playground. The exterior components consisted of painted wood using two colors of beige paint on the siding and trim along with green paint on the doors and stair railings and a dark brown paint on shingle siding on four buildings. The windows were made of vinyl or aluminum and were not painted. Exterior doors consisted of painted wood and painted metal.

It appears that the structures were built during three different construction phases and different times. This inspection was performed only on the exterior building components. No interior building components were inspected at this time.

This inspection was conducted following a modified form of the U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing with the 1997 revisions and all State and Local regulations except that a different visible color shall, by itself, result in a separate testing combination for a room equivalent. The EPA standard for lead-based paint of 1.0 mg/cm^2 was followed. All requirements for the NITON XRF usage contained in the Performance Characteristics Sheet for the specific XRF were followed.

The painted surfaces in the rooms are identified as components that can generally be defined as architectural features of the building. Components consist of walls, ceilings, floors, doors, doorjambs, window sashes, windowsills, stair treads, etc. These are the visible parts of the building. Components that are painted, stained, shellacked, varnished, coated, or covered with wallpaper are tested. Each component may be represented many times in a single room. For example, there are generally baseboards on all walls in a room. It is not necessary to test each of these baseboards in the room as long as they appear to have the same paint history. Walls in the quarters are identified as A, B, C and D. The "A" side on the exterior of the residence is generally the side nearest the street (front or address side of the dwelling). The remaining sides, "B", "C", and "D" are located in an ascending order proceeding clockwise from side "A". Side identification for interior room equivalents follows the scheme established for the dwelling as a whole.

Lead-Based Paint Inspection

An exterior surface-by-surface investigation for lead-based paint was conducted on June 22, 23, and 24, 2004. Testing was performed using a NITON X-Ray Fluorescence Spectrometer (XRF) model XL-309, serial number V875. Paints found to contain lead in a concentration equal to or greater than the Federal threshold of 1.0 mg/cm^2 of surface as measured by a XRF are considered lead-based paints by EPA / HUD guidelines.

The inspection indicated that no lead-based paint is present on all exterior components according to EPA/HUD guidelines.

It is important to keep in mind that although the EPA/HUD standard uses a criterion of 5,000 parts per million dry weight or 1.00 milligrams per square centimeter (1.00 mg/cm^2) for lead-based paint, there still may be lead present in those results reported as negative. In the event that lead is present, Federal OSHA and Washington State Department of Labor & Industries regulations will still apply, since neither agency has established a

concentration of lead in paint below which the lead in construction standards do not apply. Workers wearing respiratory protection and who have received proper training in the handling of lead contaminated materials must be used for any construction activities (including manual scraping, manual/power sanding, heat gun applications, general cleanup, and demolition) that affect a paint film containing lead.

2.0 METHODOLOGY

The format used for the lead-based paint survey and assessment includes the following items:

2.1 Definition of Room Equivalent

A **Room Equivalent** is an identifiable part of a residence, such as a room, the exterior sides, or an exterior area. Hallways, stairways, foyers, exterior play areas, or gardens are all examples of room equivalents.

2.2 Delineation of Room Equivalent

Each room equivalent is made up of **Components**. Components may be located inside or outside a building. For example, components in a room are the ceiling, floor, walls, a door and its casing, the window sash, and window casings. The **Substrate** is the material underneath the paint. Many substrates exist; however, the HUD Guidelines recommend classifying substrates into one of six substrate types: brick, concrete, drywall, metal, plaster, and wood. These substrate types are intended to include a broad range of materials. If the true substrate is not one of the six types, the substrate that most closely matches the true substrate is selected. For substrates on top of substrates, such as plaster on concrete, the substrate directly beneath the painted surface is used. A **Testing Combination** is characterized by the room equivalent, component, substrate, and visible color of paint. The **Test Location** is a specific area on a testing combination where the XRF (x-ray fluorescence) instrument tests for lead-based paint.

2.3 Sampling Strategies

The **Sampling Strategy** adheres to the EPA Performance Characteristic Sheet for the particular XRF instrument used, as well as the manufacturer's modifications and recommendations. The XRF used for detection of lead-based paint in the quarters is the NITON XL-309 Spectrum Analyzer Lead Detector, serial number V875. It was manufactured by NITON Corporation, 900 Middlesex Turnpike, Building 8, Billerica, MA 01821. Each different testing combination for all room equivalents will be tested by XRF. According to the EPA/HUD Guidelines, a lead reading by XRF of 1.0 mg/cm^2 or above is considered positive for the presence of lead-based paint. Below 1.0 mg/cm^2 is considered negative. If there are any inconclusive readings, a paint-chip sample will be collected for laboratory analysis. Laboratory analysis will only be performed by an EPA NLLAP (National Lead Laboratory Accreditation Program) or AIHA ELLAP (Environmental Lead Laboratory Accreditation Program) approved laboratory. The paint-chip sample will be taken from a four square inch area that is representative of the paint on the testing combination and that is located in an unobtrusive area. Results are given in percent lead by weight and as mg/cm^2. According to the EPA/HUD Guidelines, a result of 0.5 percent or greater is considered positive. All other results are negative. There is no inconclusive range for laboratory measurements / results.

2.4 Chain of Custody Procedures

Chain of Custody procedures are as follows: The sample is placed in a proper container and given a unique identification number. This number is then entered on the chain-of-custody form which the inspector/risk assessor signs. A copy is retained and the original is sent with the sample to an accredited laboratory. Upon receipt, laboratory personnel verify that samples and chain-of-custody information match and sign the form. A copy is retained by the laboratory and the signed original is returned with the results to the inspector/risk assessor.

2.5 Assessment Logic

Lead-Based Paint Risk Assessment is performed by use of the following **Assessment Logic**. Any paint found to contain lead below the current EPA/HUD standard of 1.0mg/cm^2, regardless of condition, is considered non-hazardous. Components having lead levels at or above this standard are visually assessed for condition and approximate surface area. The paint condition is placed into one of three categories using the risk assessor's professional judgment. These categories are: *intact*, *fair*, and *poor*. Type of deterioration may also be noted. Size of area of deteriorated paint need not be measured, but simply estimated. Based on the approximate surface area of deteriorated paint, the risk assessor then assesses the condition as *intact, fair,* or *poor*. Since this risk assessment is performed in conjunction with the lead-based paint survey, all surfaces that produce negative results are eliminated and the condition evaluation is performed for all painted surfaces determined to be at or above the current EPA/HUD standard.

2.6 Description of Paint Condition Hazard Rankings

Hazard ranking protocol are assessed following the HUD Guidelines for Evaluation and Control of Lead Based Paint Hazards in Housing, dated June, 1995, Chapter 5: Risk Assessment; Table 5-3, Categories of Paint Film Quality. This information is summarized below.

Type of Building Component[1]	Total Area of Deteriorated Paint on Each Component		
	Intact[2]	**Fair[3]**	**Poor[4]**
Exterior components with large surface area	Entire surface area is intact	Less than or equal to 10 square feet	More than 10 square feet
Interior components with large surface area	Entire surface area is intact	Less than or equal to 2 square feet	More than 2 square feet
Interior and exterior components with small surface areas	Entire surface area is intact	Less than or equal to 10% of the total surface area of component	More than 10% of the total surface area or the component

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

Superscript 2 indicates surfaces in "intact" condition that currently require no repair or monitoring, and are not considered to be lead-based paint hazards as defined by Title X.

Superscript 3 indicates surfaces in "fair" condition should be repaired and/or monitored, but are not considered to be lead based paint hazards as defined by Title X.

Superscript 4 indicates surfaces in "poor" condition are considered to be lead based paint hazards as defined by Title X and should be addressed through abatement or interim controls.

In general, workplace practices required when lead-based paint is involved include wetting down the surface (except near electrical circuits), sealing work area to avoid contamination of adjacent areas, preparing worksite using plastic sheeting, using proper personal protective equipment (PPE), enforcing personal hygiene practices and cleaning the work area at completion.

The following practices should never be used on any surface coated with lead-based paint: open-flame burning or torching; machine sanding or grinding (unless equipped with HEPA exhaust vacuum system); dry sanding or scraping; uncontained hydroblasting or high-pressure washing; abrasive blasting or sandblasting; heat guns above 1100 °F; methylene chloride strippers; and torch cutting or welding on painted metal surfaces. Dry sweeping or compressed air should never be used for cleanup.

If residents are present, the work area should be sealed off so that leaded dust does not enter the living area. Any furniture present should be moved or covered with plastic. The presence of lead-based paint should be considered in all repair and maintenance work.

* **WAC 296-155-17603 Scope. WAC 296-155-176**, Lead, applies to all construction work where an employee may be occupationally exposed to lead. All construction work excluded from coverage in the general industry standard for lead by WAC 296-62-07521 (1)(b) is covered by this standard. Construction work is defined as work for construction, alteration and/or repair, including painting and decorating. It includes but is not limited to the following:

(1) Demolition or salvage of structures where lead or materials containing lead are present;
(2) Removal or encapsulation of materials containing lead;
(3) New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
(4) Installation of products containing lead;
(5) Lead contamination/emergency cleanup;

**** WAC 296-155-17607 Permissible exposure limit.**

(1) The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 $\mu g/m^3$) averaged over an 8-hour period.
(2) If an employee is exposed to lead for more than 8 hours in any workday the employees' allowable exposure, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:
Allowable employee exposure ($\mu g/m^3$)=400 divided by hours worked in the day.
(3) When respirators are used to limit employee exposure as required by this section and all the requirements of WAC 296-155-17611(1) and 296-155-17613 have been met, employee exposure may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

The following sections are more detailed explanations of the options available as a response to lead-based paints. For this report this information is for informational purposes only, no lead-based paint was found on the exterior components of the structures located on the property:

3.1 Interim Control Options

Interim controls are intended to make dwellings lead-safe by temporarily controlling lead-based paint hazards, as opposed to abatement, which is intended to permanently (20 years) control lead hazards. Interim controls include specialized cleaning, repairs, maintenance, painting, temporary containment; ongoing monitoring of lead-based paint hazards and the establishment and operation of management and resident education programs. Interim control measures are fully effective only as long as they are carefully monitored, maintained, and periodically professionally reevaluated. If interim controls are properly maintained, they can be effective indefinitely. As long as surfaces are covered with lead-based paint, however, they constitute potential hazards.

Currently, the EPA regulations do not require certification of contractors who carry out interim controls. However, OSHA requires that all interim control workers be trained under the lead in construction standard. Since interim control activities disturb lead-based paint, typically take place in areas with excessive levels of leaded dust and are intended to reduce the potential hazards from lead-based paint and leaded dust not raise it, it is recommended that contractors with properly trained workers and supervisors perform all such work.

3.2 Acceptable Abatement Options

Abatement is the removal of either the building component or the paint itself or the near-permanent enclosure of lead-based paint hazards. From a public health perspective, properly conducted abatement is the desired response to lead hazards. Abatement has two principal advantages: it provides a long-term solution, and little monitoring or reevaluation of treated surface is necessary since failure is less likely to occur. In contrast to interim controls, lead-based paint abatement refers to a group of measures that can be expected to eliminate or reduce exposures to lead hazards for at least 20 years under normal conditions. Abatement activities include lead hazard evaluation, planning, cleaning, clearance, and waste disposal.

3.3 Paint Film Stabilization

Paint film stabilization is an interim control measure and includes stabilizing all deteriorated lead-based paint surfaces by removing deteriorating paint and repainting with a non-lead-based paint.

For paint film stabilization to be successful, the underlying substrate must be sound. If the substrate is not sound, the cause of the damage must first be corrected – eliminate any exterior leaks in the building envelope, eliminate any interior water leaks, etc. Once the cause of any substrate failure has been corrected, prepare the area to be repainted by sealing it off from the rest of the residence, repair the damaged substrate and prepare all the surfaces by wet scraping or wet sanding. Do not remove paint by burning or torching, power sanding without HEPA attachments, or abrasive blasting. Dry scraping and chemical strippers with methylene chloride are not recommended. Clean, degloss, neutralize, and rinse surfaces. The surface must be rinsed with clear water or a weak acid solution until it reaches a pH between 6 and 8 for most new paints. Good surface preparation will remove damaged, oxidizing, and deteriorated paint surfaces, but will also create leaded dust and chips. Therefore, after the surface has been allowed to dry it should be HEPA vacuumed to collect surface dust. After the surfaces have dried and been HEPA vacuumed, they should be primed and repainted following the manufacturer's recommendations. Following proper paint stabilization and recoating, containment removal and clearance testing is required.

Contractors with properly trained workers and supervisors can be used to accomplish all work through the surface preparation and cleanup stages; clearance obtained using a certified risk assessor; and then workers without lead training can perform application of primer and paint.

3.4 Dust Removal

With dust removal, both large, visible particles and small particles not visible to the naked eye need to be removed. Dust removal from a few surfaces may be sufficient as an interim control measure or dust removal may serve as a final cleanup following more comprehensive control activities.

Leaded dust can be difficult to remove with ordinary house cleaning measures. A combination of HEPA vacuuming and wet cleaning is recommended for leaded dust removal. Wet cleaning is conducted with a solution such as a lead-specific cleaner or trisodium phosphate detergent. Even with special equipment and procedures, leaded dust can be difficult to remove from dust traps, carpets, non-smooth surfaces, and surfaces abated by paint removal methods such as caustic chemicals. All cleaning should occur from top-to-bottom and from the most contaminated area to the cleaner area. Cleaning solution must be changed frequently, at least after every room is completed. Waste water should never be poured on the ground since the lead may be picked up on shoes, pet hair, etc. and returned to the house. The used cleaning solution may be hazardous waste and require special disposal procedures.

Areas being cleaned should be sealed from the rest of the residence to ensure that workers removing leaded dust do not spread lead from one household surface to another. Disposable rubber/latex gloves should be worn while washing the surfaces. Wash surfaces with warm soapy water, cleaning about 2-4 square feet at a time, then rinse with warm water and dry the area just cleaned with paper towels. Discard gloves, towels, sponges, etc. in a plastic bag and dispose of the bag in the trash.

APPENDIX 'A'

XRF SAMPLE LOG ATTACHMENT

Sample Log Attachment

Inspection date: Tuesday, June 22, 2004

Inspector: Lance J. Kiblinger-WA

License no.: WA-03-0720044884

Client: KCHA Woodside East Apartments, Woodsid

Site address: 16240 Northeast 14th Street
Bellevue, WA 98008

Report No: KCH11404

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-001			Shutter Cal 1						0	Undetermined
P-002			Calibrate						1.02	Positive
P-003			Calibrate						1.12	Positive
P-004			Calibrate						1.06	Positive
P-005	B		Exterior	D	Ext wall	Wood	Intact	Beige	0.03	Negative
P-006	B		Exterior	D	Trim lower	Wood	Intact	Beige	0.02	Negative
P-007	B		Exterior	D	Stair railing	Wood	Intact	Green	0.09	Negative
P-008	B		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-009	B		Exterior	D	Door	Wood	Intact	Green	0	Negative
P-010	B		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-011	B		Exterior	A	Fence	Wood	Intact	Beige	0.02	Negative
P-012	B		Exterior	B	Trim lower	Wood	Intact	Beige	0.22	Negative
P-013	B		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-014	B		Exterior	B	Porch column	Wood	Intact	Beige	0.02	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-015	B		Exterior	B	Porch trim upper	Wood	Intact	Beige	0.02	Negative
P-016	B		Exterior	B	Trim lower	Wood	Intact	Beige	0.02	Negative
P-017	B		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-018	A		Exterior	B	Door	Wood	Intact	Green	0	Negative
P-019	A		Exterior	B	Door casing	Wood	Intact	Beige	0.03	Negative
P-020	A		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-021	A		Exterior	B	Stair riser	Wood	Intact	Beige	0.02	Negative
P-022	A		Exterior	B	Stair railing	Wood	Intact	Green	0	Negative
P-023	A		Exterior	B	Stair baluster	Wood	Intact	Beige	0.01	Negative
P-024	A		Exterior	B	Shingle siding	Wood	Intact	Brown	0	Negative
P-025	A		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-026	A		Exterior	C	Trim upper	Wood	Intact	Beige	0.01	Negative
P-027	A		Exterior	C	Trim lower	Wood	Intact	Beige	0.12	Negative
P-028	A		Exterior	C	Downspout	Metal	Intact	Beige	0.03	Negative
P-029	A		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-030	A		Exterior	D	Ext wall	Wood	Intact	Beige	0.23	Negative
P-031			Shutter Cal 1						0	Undetermined
P-032			Calibrate						1.06	Positive
P-033			Calibrate						1.12	Positive
P-034			Calibrate						1.05	Positive
P-035	G		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-036	G		Exterior	B	Trim lower	Wood	Intact	Beige	0.01	Negative
P-037	G		Exterior	B	Trim upper	Wood	Intact	Beige	0	Negative
P-038	G		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-039	G		Exterior	B	Stair riser	Wood	Intact	Beige	0	Negative
P-040	G		Exterior	B	Stair railing	Wood	Intact	Green	0.01	Negative
P-041	G		Exterior	B	Door	Metal	Intact	Green	0.02	Negative
P-042	G		Exterior	C	Downspout	Metal	Intact	Beige	0.01	Negative
P-043	G		Exterior	C	Ext wall	Wood	Intact	Beige	0.01	Negative
P-044	G		Exterior	D	Porch railing	Wood	Intact	Beige	0	Negative
P-045	G		Exterior	D	Porch column	Wood	Intact	Beige	0	Negative
P-046	G		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-047	G		Exterior	D	Window trim	Wood	Intact	Beige	0	Negative
P-048	G		Exterior	D	Trim upper	Wood	Intact	Beige	0.02	Negative
P-049	G		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-050	G		Exterior	A	Trim Lower	Wood	Intact	Beige	0.06	Negative
P-051	G		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-052	H		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-053	H		Exterior	B	Trim upper	Wood	Intact	Beige	0	Negative
P-054	H		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-055	H		Exterior	B	Downspout	Metal	Intact	Beige	-0.08	Negative
P-056	H		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-057	H		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-058	H		Exterior	C	Porch column	Wood	Intact	Beige	0.03	Negative
P-059	H		Exterior	C	Porch railing	Wood	Intact	Beige	0.02	Negative
P-060	H		Exterior	C	Porch ceiling	Wood	Intact	Beige	0.02	Negative
P-061	H		Exterior	C	Window trim	Wood	Intact	Beige	0.02	Negative
P-062	H		Exterior	D	Trim lower	Wood	Intact	Beige	0.02	Negative
P-063	H		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-064	H		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-065	H		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-066	H		Exterior	A	Stair railing	Wood	Intact	Green	0	Negative
P-067			Shutter Cal 1						0	Undetermined
P-068			Calibrate						1.09	Positive
P-069			Calibrate						1.28	Positive
P-070			Calibrate						1.12	Positive
P-071	H		Exterior	A	Stair riser	Wood	Intact	Beige	0.01	Negative
P-072	H		Exterior	A	Door casing	Wood	Intact	Beige	0.04	Negative
P-073	H		Exterior	A	Door	Metal	Intact	Green	0.01	Negative
P-074	H		Exterior	A	Trim lower	Wood	Intact	Beige	0.01	Negative
P-075	I		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-076	I		Exterior	B	Stair railing	Wood	Intact	Green	0	Negative
P-077	I		Exterior	B	Stair baluster	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-078	I		Exterior	B	Door	Metal	Intact	Green	0.04	Negative
P-079	I		Exterior	B	Door casing	Wood	Intact	Beige	0	Negative
P-080	I		Exterior	B	Ext wall	Wood	Intact	Beige	0.02	Negative
P-081	I		Exterior	B	Trim upper	Wood	Intact	Beige	0	Negative
P-082	I		Exterior	B	Window trim	Wood	Intact	Beige	0	Negative
P-083	I		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-084	I		Exterior	C	Downspout	Metal	Intact	Beige	0	Negative
P-085	I		Exterior	C	Ext wall	Wood	Intact	Beige	0.01	Negative
P-086	I		Exterior	D	Trim lower	Wood	Intact	Beige	0.01	Negative
P-087	I		Exterior	D	Window trim	Wood	Intact	Beige	0.01	Negative
P-088	I		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-089	I		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-090	I		Exterior	D	Porch column	Wood	Intact	Beige	0	Negative
P-091	I		Exterior	D	Proch railing	Wood	Intact	Beige	0.02	Negative
P-092	I		Exterior	D	Porch ceiling	Wood	Intact	Beige	0.03	Negative
P-093	J		Exterior	A	Porch trim	Wood	Intact	Beige	0.05	Negative
P-094	J		Exterior	A	Porch column	Wood	Intact	Beige	0.03	Negative
P-095	J		Exterior	A	Ext wall	Wood	Intact	Beige	0.27	Negative
P-096	J		Exterior	A	Trim upper	Wood	Intact	Beige	0.04	Negative
P-097	J		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-098	J		Exterior	A	Porch column	Wood	Intact	Beige	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-099	J		Exterior	D	Trim lower	Wood	Intact	Beige	0.01	Negative
P-100	J		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-101	J		Exterior	C	Trim upper	Wood	Intact	Beige	0	Negative
P-102	J		Exterior	C	Ext Wall	Wood	Intact	Beige	0	Negative
P-103	J		Exterior	C	Stair railing	Wood	Intact	Green	0.03	Negative
P-104	J		Exterior	C	Stair riser	Wood	Intact	Beige	0.11	Negative
P-105	J		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-106	J		Exterior	C	Door	Metal	Intact	Green	0	Negative
P-107	J		Exterior	C	Door casing	Wood	Intact	Beige	0	Negative
P-108	J		Exterior	C	Downspout	Metal	Intact	Beige	0.01	Negative
P-109	K		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-110	K		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-111	K		Exterior	D	Stair railing	Wood	Intact	Green	0	Negative
P-112	K		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-113	K		Exterior	D	Door	Metal	Intact	Green	0	Negative
P-114	K		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-115	K		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative
P-116	K		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-117	K		Exterior	C	Downspout	Metal	Intact	Beige	0.01	Negative
P-118	K		Exterior	B	Porch column	Wood	Intact	Beige	0.05	Negative
P-119	K		Exterior	B	Porch railing	Wood	Intact	Beige	0.04	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-120	K		Exterior	B	Window trim	Wood	Intact	Beige	0.01	Negative
P-121	K		Exterior	B	Trim upper	Wood	Intact	Beige	0.01	Negative
P-122	K		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-123	K		Exterior	B	Porch column	Wood	Intact	Beige	0.04	Negative
P-124	P1		Exterior	B	Swing Set	Metal	Intact	Green	0.61	Negative
P-125	P1		Exterior	B	Swing Set	Metal	Intact	Green	0.28	Negative
P-126	F		Exterior	A	Trim lower	Wood	Intact	Beige	0.01	Negative
P-127	F		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-128	F		Exterior	A	Window trim	Wood	Intact	Beige	0.01	Negative
P-129	F		Exterior	A	Trim upper	Wood	Intact	Beige	0.01	Negative
P-130	F		Exterior	A	Stair railing	Wood	Intact	Green	0.01	Negative
P-131	F		Exterior	A	Stair baluster	Wood	Intact	Beige	0.01	Negative
P-132	F		Exterior	A	Door	Metal	Intact	Green	0.01	Negative
P-133	F		Exterior	A	Door casing	Wood	Intact	Beige	0.02	Negative
P-134	F		Exterior	B	Trim upper	Wood	Intact	Beige	0.01	Negative
P-135	F		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-136	F		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-137	F		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-138	F		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-139	F		Exterior	C	Window trim	Wood	Intact	Beige	0.05	Negative
P-140	F		Exterior	C	Porch column	Wood	Intact	Beige	0.03	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-141	F		Exterior	D	Trim lower	Wood	Intact	Beige	0.04	Negative
P-142	F		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-143	E		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-144	E		Exterior	A	Trim upper	Wood	Intact	Beige	0.01	Negative
P-145	E		Exterior	B	Window trim	Wood	Intact	Beige	0	Negative
P-146	E		Exterior	B	Porch column	Wood	Intact	Beige	0.02	Negative
P-147	E		Exterior	B	Porch ceiling	Wood	Intact	Beige	0.01	Negative
P-148	E		Exterior	B	Trim lower	Wood	Intact	Beige	0.07	Negative
P-149	E		Exterior	B	Ext wall	Wood	Intact	Beige	0.01	Negative
P-150	E		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative
P-151	E		Exterior	C	Door	Metal	Intact	Green	0.02	Negative
P-152	E		Exterior	C	Door casing	Wood	Intact	Beige	0	Negative
P-153	E		Exterior	C	Downspout	Metal	Intact	Beige	-0.15	Negative
P-154	E		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative
P-155	E		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-156	E		Exterior	D	Stair railing	Wood	Intact	Green	0	Negative
P-157	E		Exterior	D	Stair baluster	Wood	Intact	Beige	0	Negative
P-158	E		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-159	E		Exterior	D	Window trim	Wood	Intact	Beige	0	Negative
P-160	E		Exterior	D	Trim upper	Wood	Intact	Beige	0	Negative
P-161	L		Exterior	B	Trim lower	Wood	Intact	Beige	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-162	L		Exterior	B	Window trim	Wood	Intact	Beige	0.01	Negative
P-163	L		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-164	L		Exterior	B	Stair railing	Wood	Intact	Green	0.01	Negative
P-165	L		Exterior	B	Stair riser	Wood	Intact	Beige	0	Negative
P-166	L		Exterior	B	Stair baluster	Wood	Intact	Beige	0	Negative
P-167	L		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-168	L		Exterior	B	Door	Metal	Intact	Green	0.13	Negative
P-169	L		Exterior	B	Door casing	Wood	Intact	Beige	0	Negative
P-170	L		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-171	L		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-172	L		Exterior	C	Ext wall	Wood	Intact	Beige	0.04	Negative
P-173	L		Exterior	D	Porch column	Wood	Intact	Beige	0.01	Negative
P-174	L		Exterior	D	Porch ceiling	Wood	Intact	Beige	0.02	Negative
P-175	L		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-176	L		Exterior	D	Window trim	Wood	Intact	Beige	0.01	Negative
P-177	L		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-178	L		Exterior	D	Porch column	Wood	Intact	Beige	0	Negative
P-179	L		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-180	L		Exterior	A	Trim upper	Wood	Intact	Beige	0.01	Negative
P-181	L		Exterior	A	Ext wall	Wood	Intact	Beige	0.03	Negative
P-182	L		Exterior	A	Trim lower	Wood	Intact	Beige	-0.1	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-183	M		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-184	M		Exterior	B	Downspout	Metal	Intact	Beige	0.11	Negative
P-185	M		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-186	M		Exterior	C	Stair railing	Wood	Intact	Green	0	Negative
P-187	M		Exterior	C	Stair baluster	Wood	Intact	Beige	0.01	Negative
P-188	M		Exterior	C	Stair riser	Wood	Intact	Beige	0	Negative
P-189	M		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative
P-190	M		Exterior	C	Window trim	Wood	Intact	Beige	0	Negative
P-191	M		Exterior	C	Trim upper	Wood	Intact	Beige	0.01	Negative
P-192	M		Exterior	C	Door	Metal	Intact	Green	0.01	Negative
P-193	M		Exterior	C	Door casing	Wood	Intact	Beige	0	Negative
P-194	M		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-195	M		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-196	M		Exterior	D	Door	Metal	Intact	Green	0	Negative
P-197	M		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-198	M		Exterior	A	Porch column	Wood	Intact	Beige	0	Negative
P-199	M		Exterior	A	Porch trim	Wood	Intact	Beige	0.01	Negative
P-200	M		Exterior	A	Window trim	Wood	Intact	Beige	0.01	Negative
P-201	M		Exterior	A	Trim lower	Wood	Intact	Beige	0.03	Negative
P-202	M		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-203	M		Exterior	A	Porch column	Wood	Intact	Beige	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-204	S		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-205	S		Exterior	C	Trim upper	Wood	Intact	Beige	0	Negative
P-206	S		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative
P-207	S		Exterior	C	Downspout	Metal	Intact	Beige	0.09	Negative
P-208	S		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-209	S		Exterior	D	Stair railing	Wood	Intact	Green	0.01	Negative
P-210	S		Exterior	D	Stair baluster	Wood	Intact	Beige	0.01	Negative
P-211	S		Exterior	D	Window trim	Wood	Intact	Beige	0.37	Negative
P-212	S		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-213	S		Exterior	D	Trim upper	Wood	Intact	Beige	0	Negative
P-214	S		Exterior	D	Door	Metal	Intact	Green	0.01	Negative
P-215	S		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-216	S		Exterior	D	Ext wall	Wood	Intact	Beige	0.02	Negative
P-217	S		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-218	S		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-219	S		Exterior	A	Trim upper	Wood	Intact	Beige	0	Negative
P-220			Calibrate						1.08	Positive
P-221			Calibrate						1.12	Positive
P-222			Calibrate						1.07	Positive
P-223			Shutter Cal 1						0	Undetermined
P-224			Calibrate						1.05	Positive

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-225			Calibrate						1.08	Positive
P-226			Calibrate						1.09	Positive
P-227	Z		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-228	Z		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-229	Z		Exterior	B	Downspout	Metal	Intact	Beige	0.01	Negative
P-230	Z		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-231	Z		Exterior	B	Porch column	Wood	Intact	Beige	0.02	Negative
P-232	Z		Exterior	B	Porch railing	Wood	Intact	Beige	0	Negative
P-233	Z		Exterior	B	Porch baluster	Wood	Intact	Beige	0	Negative
P-234	Z		Exterior	A	Ext wall	Wood	Intact	Beige	0.22	Negative
P-235	Z		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-236	Z		Exterior	D	Stair railing	Wood	Intact	Green	0.01	Negative
P-237	Z		Exterior	D	Stair baluster	Wood	Intact	Beige	0.01	Negative
P-238	Z		Exterior	D	Stair riser	Wood	Intact	Beige	0	Negative
P-239	Z		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-240	Z		Exterior	D	Door	Metal	Intact	Green	0	Negative
P-241	Z		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-242	Z		Exterior	D	Downspout	Metal	Intact	Beige	0.05	Negative
P-243	Z		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-244	Z		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-245	Z		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-246	L1		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-247	L1		Exterior	A	Trim lower	Wood	Intact	Beige	0.01	Negative
P-248	L1		Exterior	A	Trim upper	Wood	Intact	Beige	0	Negative
P-249	L1		Exterior	B	Door	Metal	Intact	Green	0	Negative
P-250	L1		Exterior	B	Door casing	Metal	Intact	Beige	0	Negative
P-251	L1		Exterior	B	Ext wall	Wood	Intact	Beige	0.01	Negative
P-252	L1		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-253	L1		Exterior	B	Downspout	Metal	Intact	Beige	0.05	Negative
P-254	L1		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-255	L1		Exterior	C	Window trim	Wood	Intact	Beige	0	Negative
P-256	L1		Exterior	D	Trim lower	Wood	Intact	Beige	0.03	Negative
P-257	L1		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-258	L1		Exterior	D	Downspout	Metal	Intact	Beige	0.02	Negative
P-259	L1		Exterior	D	Door	Metal	Intact	Green	0	Negative
P-260	L1		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-261	U		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-262	U		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-263	U		Exterior	C	Door	Wood	Intact	Green	0	Negative
P-264	U		Exterior	C	Door casing	Wood	Intact	Beige	0	Negative
P-265	U		Exterior	C	Downspout	Metal	Intact	Beige	0.06	Negative
P-266	U		Exterior	C	Window trim	Wood	Intact	Beige	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-267	U		Exterior	D	Trim upper	Wood	Intact	Beige	0	Negative
P-268	U		Exterior	D	Trim lower	Wood	Intact	Beige	0.27	Negative
P-269	U		Exterior	D	Ext wall	Wood	Intact	Beige	0.04	Negative
P-270	U		Exterior	A	Porch column	Wood	Intact	Beige	0	Negative
P-271	U		Exterior	A	Porch ceiling	Wood	Intact	Beige	0.01	Negative
P-272	U		Exterior	A	Window trim	Wood	Intact	Beige	0	Negative
P-273	U		Exterior	A	Trim upper	Wood	Intact	Beige	0.01	Negative
P-274	U		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-275	U		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-276	U		Exterior	A	Downspout	Metal	Intact	Beige	0	Negative
P-277	U		Exterior	A	Ext wall	Wood	Intact	Beige	0.04	Negative
P-278	U		Exterior	B	Ext wall	Wood	Intact	Beige	0.05	Negative
P-279	U		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-280	U		Exterior	B	Trim upper	Wood	Intact	Beige	0.02	Negative
P-281			Calibrate						1.09	Positive
P-282			Calibrate						1.22	Positive
P-283			Calibrate						1.01	Positive
P-284	T		Exterior	D	Trim lower	Wood	Intact	Beige	0.01	Negative
P-285	T		Exterior	D	Door	Wood	Intact	Green	0	Negative
P-286	T		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-287	T		Exterior	D	Downspout	Metal	Intact	Beige	0.03	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-288	T		Exterior	D	Trim upper	Wood	Intact	Beige	0.01	Negative
P-289	T		Exterior	D	Window trim	Wood	Intact	Beige	0	Negative
P-290	T		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-291	T		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-292	T		Exterior	B	Porch column	Wood	Intact	Beige	0.01	Negative
P-293	T		Exterior	B	Porch railing	Wood	Intact	Beige	0.01	Negative
P-294	T		Exterior	B	Window trim	Wood	Intact	Beige	0	Negative
P-295	T		Exterior	B	Trim lower	Wood	Intact	Beige	0.02	Negative
P-296	T		Exterior	B	Trim upper	Wood	Intact	Beige	0	Negative
P-297	T		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-298	T		Exterior	B	Downspout	Metal	Intact	Beige	0.09	Negative
P-299	T		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-300	T		Exterior	C	Ext wall	Wood	Intact	Beige	0.34	Negative
P-301	T		Exterior	C	Trim upper	Wood	Intact	Beige	0.15	Negative
P-302	T		Exterior	C	Trim lower	Wood	Intact	Beige	0.02	Negative
P-303	D		Exterior	D	Ext wall	Wood	Intact	Beige	0.03	Negative
P-304	D		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-305	D		Exterior	D	Stair railing	Wood	Intact	Green	0	Negative
P-306	D		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-307	D		Exterior	D	Door	Wood	Intact	Beige	0.01	Negative
P-308	D		Exterior	A	Ext wall	Wood	Intact	Beige	0.06	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-309	D		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-310	D		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-311	D		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-312	D		Exterior	B	Porch column	Wood	Intact	Beige	0.02	Negative
P-313	D		Exterior	B	Porch trim upper	Wood	Intact	Beige	0.03	Negative
P-314	D		Exterior	B	Window trim	Wood	Intact	Beige	0.01	Negative
P-315	D		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-316	C		Exterior	B	Window trim	Wood	Intact	Beige	0	Negative
P-317	C		Exterior	C	Door	Wood	Intact	Green	0.03	Negative
P-318	C		Exterior	C	Door casing	Wood	Intact	Beige	0	Negative
P-319	C		Exterior	C	Stair riser	Wood	Intact	Beige	0.02	Negative
P-320	C		Exterior	C	Stair railing	Wood	Intact	Green	0	Negative
P-321	C		Exterior	C	Trim lower	Wood	Intact	Beige	0.01	Negative
P-322	C		Exterior	C	Shingle siding	Wood	Intact	Brown	0	Negative
P-323	C		Exterior	C	Ext Wall	Wood	Intact	Beige	0	Negative
P-324	C		Exterior	C	Trim upper	Wood	Intact	Beige	0	Negative
P-325	C		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-326	C		Exterior	D	Downspout	Metal	Intact	Beige	0	Negative
P-327	C		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-328	C		Exterior	D	Ext Wall	Wood	Intact	Beige	0.22	Negative
P-329	R		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-330	R		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-331	R		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-332	R		Exterior	A	Stair railing	Wood	Intact	Green	0.02	Negative
P-333	R		Exterior	A	Stair baluster	Wood	Intact	Beige	0.01	Negative
P-334	R		Exterior	A	Downspout	Metal	Intact	Beige	0	Negative
P-335	R		Exterior	A	Trim lower	Wood	Intact	Beige	0.01	Negative
P-336	R		Exterior	A	Window trim	Wood	Intact	Beige	0	Negative
P-337	R		Exterior	A	Trim upper	Wood	Intact	Beige	0	Negative
P-338	R		Exterior	A	Door	Metal	Intact	Green	0	Negative
P-339	R		Exterior	A	Door casing	Wood	Intact	Beige	0.05	Negative
P-340	R		Exterior	D	Ext wall	Wood	Intact	Beige	0.07	Negative
P-341	R		Exterior	D	Trim lower	Wood	Intact	Beige	0.01	Negative
P-342	R		Exterior	C	Downspout	Metal	Intact	Beige	0	Negative
P-343	R		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-344	R		Exterior	C	Porch column	Wood	Intact	Beige	0.03	Negative
P-345	R		Exterior	C	Porch ceiling	Wood	Intact	Beige	0.01	Negative
P-346	R		Exterior	C	Window trim	Wood	Intact	Beige	0	Negative
P-347	R		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-348	R		Exterior	C	Ext wall	Wood	Intact	Beige	0.01	Negative
P-349	R		Exterior	C	Porch trim	Wood	Intact	Beige	0.01	Negative
P-350	O		Exterior	B	Trim lower	Wood	Intact	Beige	0.24	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-351	O		Exterior	B	Ext wall	Wood	Intact	Beige	0.1	Negative
P-352	O		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-353	O		Exterior	A	Stair baluster	Wood	Intact	Beige	0	Negative
P-354	O		Exterior	A	Stiar railing	Wood	Intact	Green	0	Negative
P-355	O		Exterior	A	Stair riser	Wood	Intact	Beige	0.02	Negative
P-356	O		Exterior	A	Trim lower	Wood	Intact	Beige	0.03	Negative
P-357	O		Exterior	A	Trim upper	Wood	Intact	Beige	0	Negative
P-358	O		Exterior	A	Window trim	Wood	Intact	Beige	0.01	Negative
P-359	O		Exterior	A	Door	Metal	Intact	Green	0	Negative
P-360	O		Exterior	A	Door casing	Wood	Intact	Beige	0	Negative
P-361	O		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-362	O		Exterior	D	Ext wall	Wood	Intact	Beige	0.07	Negative
P-363	O		Exterior	C	Door trim	Wood	Intact	Beige	0	Negative
P-364	O		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-365	O		Exterior	C	Porch column	Wood	Intact	Beige	0	Negative
P-366	O		Exterior	C	Porch ceiling	Wood	Intact	Beige	0	Negative
P-367	O		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-368	O		Exterior	C	Window trim	Wood	Intact	Beige	0.03	Negative
P-369	O		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-370	O		Exterior	C	Porch column	Wood	Intact	Beige	0.01	Negative
P-371	G1		Exterior	A	Ext wall	Wood	Intact	Beige	0.05	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-372	G1		Exterior	B	Ext wall	Wood	Intact	Beige	0.07	Negative
P-373	G1		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-374	G1		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-375	G1		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-376	G2		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-377	G2		Exterior	D	Ext wall	Wood	Intact	Beige	0.02	Negative
P-378	G2		Exterior	B	Ext wall	Wood	Intact	Beige	0.01	Negative
P-379	G2		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-380			Calibrate						1.12	Positive
P-381			Calibrate						1.05	Positive
P-382			Calibrate						1.01	Positive
P-383	P		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-384	P		Exterior	B	Stair railing	Wood	Intact	Green	0.01	Negative
P-385	P		Exterior	B	Stair riser	Wood	Intact	Beige	0	Negative
P-386	P		Exterior	B	Stair railing	Wood	Intact	Green	0	Negative
P-387	P		Exterior	B	Stair baluster	Wood	Intact	Beige	0	Negative
P-388	P		Exterior	B	Door	Metal	Intact	Green	0.13	Negative
P-389	P		Exterior	B	Door casing	Wood	Intact	Beige	0	Negative
P-390	P		Exterior	B	Downspout	Metal	Intact	Beige	0	Negative
P-391	P		Exterior	C	Ext wall	Wood	Intact	Beige	0.08	Negative
P-392	P		Exterior	C	Trim upper	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-393	P		Exterior	D	Porch column	Wood	Intact	Beige	0	Negative
P-394	P		Exterior	D	Porch trim	Wood	Intact	Beige	0.02	Negative
P-395	P		Exterior	D	Window trim	Wood	Intact	Beige	0	Negative
P-396	P		Exterior	D	Trim upper	Wood	Intact	Beige	0.05	Negative
P-397	P		Exterior	D	Trim lower	Wood	Intact	Beige	0.07	Negative
P-398	P		Exterior	D	Porch column	Wood	Intact	Beige	0	Negative
P-399	P		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-401	P		Exterior	A	Ext wall	Wood	Intact	Beige	0.01	Negative
P-402	P		Exterior	A	Trim lower	Wood	Intact	Beige	0.03	Negative
P-403	P		Exterior	A	Downspout	Metal	Intact	Beige	0	Negative
P-404	Y		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-405	Y		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-406	Y		Exterior	B	Downspout	Metal	Intact	Beige	0.01	Negative
P-407	Y		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-408	Y		Exterior	A	Porch column	Wood	Intact	Beige	0	Negative
P-409	Y		Exterior	A	Porch trim	Wood	Intact	Beige	0	Negative
P-410	Y		Exterior	A	Porch baluster	Wood	Intact	Beige	0	Negative
P-411	Y		Exterior	A	Window trim	Wood	Intact	Beige	0	Negative
P-412	Y		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-413	Y		Exterior	D	Stair railing	Wood	Intact	Green	0.01	Negative
P-414	Y		Exterior	D	Stair riser	Wood	Intact	Beige	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-457	W		Exterior	D	Porch trim	Wood	Intact	Beige	0	Negative
P-458	W		Exterior	D	Window trim	Wood	Intact	Beige	0.03	Negative
P-459	W		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-460	W		Exterior	D	Downspout	Metal	Intact	Beige	0	Negative
P-461	W		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-462	W		Exterior	D	Trim upper	Wood	Intact	Beige	0.01	Negative
P-463	W		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-464	W		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-465	W		Exterior	C	Trim upper	Wood	Intact	Beige	0	Negative
P-466	V		Exterior	B	Ext wall	Wood	Intact	Beige	0.09	Negative
P-467	V		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-468	V		Exterior	B	Downspout	Metal	Intact	Beige	0.07	Negative
P-469	V		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-470	V		Exterior	C	Porch column	Wood	Intact	Beige	0	Negative
P-471	V		Exterior	C	Porch railing	Wood	Intact	Beige	0	Negative
P-472	V		Exterior	C	Downspout	Metal	Intact	Beige	0	Negative
P-473	V		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-474	V		Exterior	C	Window trim	Wood	Intact	Beige	0	Negative
P-475	V		Exterior	A	stair railing	Wood	Intact	Green	0.1	Negative
P-476	V		Exterior	A	Stair baluster	Wood	Intact	Beige	0.09	Negative
P-477	V		Exterior	A	Stair riser	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-415	Y		Exterior	D	Trim upper	Wood	Intact	Beige	0	Negative
P-416	Y		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-417	Y		Exterior	D	Door	Metal	Intact	Green	0	Negative
P-418	Y		Exterior	D	Door casing	Wood	Intact	Beige	0	Negative
P-419	Y		Exterior	D	Window trim	Wood	Intact	Beige	0.05	Negative
P-420	Y		Exterior	C	Downspout	Metal	Intact	Beige	0.34	Negative
P-421	Y		Exterior	C	Ext wall	Wood	Intact	Beige	0.21	Negative
P-422	Y		Exterior	C	Trim lower	Wood	Intact	Beige	0	Negative
P-423	G3		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-424	G3		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-425	G3		Exterior	B	Trim upper	Wood	Intact	Beige	0	Negative
P-426	G3		Exterior	C	Ext wall	Wood	Intact	Beige	0.07	Negative
P-427	G3		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-428	X		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-429	X		Exterior	B	Trim lower	Wood	Intact	Beige	0.01	Negative
P-430	X		Exterior	B	Downspout	Metal	Intact	Beige	0.01	Negative
P-431	X		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-432	X		Exterior	A	Porch column	Wood	Intact	Beige	0	Negative
P-433	X		Exterior	A	Porch ceiling	Wood	Intact	Beige	0	Negative
P-434	X		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-435	X		Exterior	A	Trim upper	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-436	X		Exterior	A	Window trim	Wood	Intact	Beige	0	Negative
P-437	X		Exterior	D	Ext wall	Wood	Intact	Beige	0.01	Negative
P-438	X		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-439	X		Exterior	D	Trim upper	Wood	Intact	Beige	0.03	Negative
P-440	X		Exterior	C	Ext wall	Wood	Intact	Beige	0.02	Negative
P-441	X		Exterior	C	Door	Metal	Intact	Green	0	Negative
P-442	X		Exterior	C	Door casing	Wood	Intact	Beige	0	Negative
P-443	X		Exterior	C	Downspout	Metal	Intact	Beige	0.23	Negative
P-444	X		Exterior	C	Trim lower	Wood	Intact	Beige	0.36	Negative
P-445	X		Exterior	C	Stair railing	Wood	Intact	Green	0.01	Negative
P-446	X		Exterior	C	Stair riser	Wood	Intact	Beige	0	Negative
P-447	W		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-448	W		Exterior	B	Trim lower	Wood	Intact	Beige	0	Negative
P-449	W		Exterior	B	Trim upper	Wood	Intact	Beige	0.02	Negative
P-450	W		Exterior	B	Door	Metal	Intact	Green	0	Negative
P-451	W		Exterior	B	Door casing	Wood	Intact	Beige	0	Negative
P-452	W		Exterior	B	Window trim	Wood	Intact	Beige	0	Negative
P-453	W		Exterior	B	Stair railing	Wood	Intact	Green	0.01	Negative
P-454	W		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-455	W		Exterior	A	Trim lower	Wood	Intact	Beige	0	Negative
P-456	W		Exterior	D	Porch column	Wood	Intact	Beige	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
P-478	V		Exterior	A	Ext wall	Wood	Intact	Beige	0.01	Negative
P-479	V		Exterior	A	Door	Metal	Intact	Green	0	Negative
P-480	V		Exterior	A	Door casing	Wood	Intact	Beige	0	Negative
P-481	V		Exterior	A	Trim lower	Wood	Intact	Beige	0.08	Negative
P-482	V		Exterior	D	Trim upper	Wood	Intact	Beige	0	Negative
P-483	V		Exterior	D	Trim lower	Wood	Intact	Beige	0	Negative
P-484	V		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-485	G4		Exterior	B	Ext wall	Wood	Intact	Beige	0	Negative
P-486	G4		Exterior	C	Ext wall	Wood	Intact	Beige	0	Negative
P-487	G4		Exterior	C	Trim lower	Wood	Intact	Beige	0.25	Negative
P-488	G4		Exterior	D	Ext wall	Wood	Intact	Beige	0	Negative
P-489	G4		Exterior	A	Ext wall	Wood	Intact	Beige	0	Negative
P-490					Calibrate				1.01	Positive
P-491					Calibrate				1	Positive
P-492					Calibrate				1.02	Positive

End of Sample Log

APPENDIX 'B'

NITON XRF PERFORMANCE CHARACTERISTICS

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL:
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies*: *Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%--confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L-shell results or 120-second readings for K-shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION :
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

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

THRESHOLDS:
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0
*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.		

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

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

Compute the Retest Tolerance Limit by the following steps:

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

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

Square the average for each testing combination.

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

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

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

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

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

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

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

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

BIAS AND PRECISION

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets*, EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm^2 lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm^2. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20-second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm^2 lead. Readings reported by the instrument in the "*x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm^2.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5
*Precision at 1 standard deviation			

CLASSIFICATION OF RESULTS

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm^2 standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., ≥ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings and ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1.0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L-shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

<u>If two greater-than symbols are displayed then</u>:

- Classify the >>5.0 L-reading as POSITIVE

<u>If one greater-than symbol is displayed then</u>:

- Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

- Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

<u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

- Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

- Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

- Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1 0.

- Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

- Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1)

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm^2 for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm^2)		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION

This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

APPENDIX 'C'

PERSONNEL CERTIFICATION

United States Environmental Protection Agency

This is to certify that

Lance J. Kiblinger

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402(a)(1), and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as a Risk Assessor.

In the State of:

WASHINGTON

This certification is valid for three (3) years from the date of issuance and expires 7/18/2004.

~~WA-03-0720044884~~
Certification #

7/18/2001
Issued on

Montal Livingston
Approving Official

UNIT MANAGER, SOLID WASTE & TOXICS UNIT
Title

NITON

CORPORATION

Certificate of Achievement

Lance Kiblinger

Pacific Rim Enviromental Inc

has successfully completed the Manufacturer's Training Course for the **NITON Spectrum Analyzer** *and is now certified in radiation safety and monitoring, measurement technology, and machine maintenance of the* **NITON** XRF **Spectrum Analyzer**.

(CIH's - The ABIH awards 1 CM point, approval #5827)

A1011847208
Certificate Number

01/25/01 Seattle, WA
Date & Site of Course

Victoria Grzybinski
Training Coordinator

Director of Training

United States Environmental Protection Agency

This is to certify that:

Northern Industrial Hygiene, Inc.

has fulfilled the requirements of the Toxic Substances Contol Act (TSCA) Section 402(a)(1), and has received certification as a firm, pursuant to 40 CFR Part 745.226 to conduct lead-based paint activities for the following:

Jurisdiction: State of Washington excluding Indian Tribes

This certification is valid from the date of issuance and expires December 9, 2005

Certification # WA-04-122005-2885 Issued on: December 10, 2002

Montel Livingston Unit Manager, Solid Waste and Toxics
Office of Waste and Chemicals Management

NORTHERN
INDUSTRIAL HYGIENE, INC.

Billings, Montana • Helena, Montana • Seatle Washington

Lead-Based Paint Inspection

Woodside East Apartments
16240 Northeast 14th Street
Bellevue, WA 98008

Inspection Performed For:

King County Housing Authority
600 Andover Park West
Seattle, WA 98188

Inspection Performed By:

Lance Kiblinger, Washington State Certified Lead Risk Assessor
Certification # 0079 (Expires 06/28/2007)

Northern Industrial Hygiene, Inc.
215 Southwest 153rd Street
Burien, WA 9866

Inspection Date: July 22, 2004
Report Date: July 30, 2004
NIH#: 235-004

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1.0 INSPECTION SUMMARY

On July 19th, through the 23rd, 2004, Lance Kiblinger of Northern Industrial Hygiene, Inc. (NIH) conducted a lead-based paint inspection of randomly chosen apartment units within the complex of all interior building components located at the Woodside East Apartment complex located at 16240 Northeast 14th Street, Bellevue, WA. Mr. Kiblinger is a Washington State Certified Lead Risk Assessor (Certificate #0079).

The structures are wood framed construction with interior painted wallboard walls and wood doors, casings, baseboards, cabinets, and metal baseboard heating. Some building components were not painted therefore they were not inspected for lead-based paint. On the property were found 23 buildings that housed multiple apartment units with laundry facilities attached to some of the buildings. The interior components, if painted, were painted white. Several coats were found on the building components all of which were in good condition. It appears that each unit is painted before new occupants move into each of the units. The windows were made of vinyl or aluminum and were not painted. Exterior doors consisted of painted wood and painted metal.

It appears that the structures were built during different construction phases after 1980. This inspection was performed to determine if lead-based paint exist within the interior of the units.

This inspection was conducted following a modified form of the U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing with the 1997 revisions and all State and Local regulations except that a different visible color shall, by itself, result in a separate testing combination for a room equivalent. The EPA standard for lead-based paint of 1.0 mg/cm^2 was followed. All requirements for the NITON XRF usage contained in the Performance Characteristics Sheet for the specific XRF were followed.

The painted surfaces in the rooms are identified as components that can generally be defined as architectural features of the building. Components consist of walls, ceilings, floors, doors, doorjambs, window sashes, windowsills, stair treads, etc. These are the visible parts of the building. Components that are painted, stained, shellacked, varnished, coated, or covered with wallpaper are tested. Each component may be represented many times in a single room. For example, there are generally baseboards on all walls in a room. It is not necessary to test each of these baseboards in the room as long as they appear to have the same paint history. Walls in the quarters are identified as A, B, C and D. The "A" side on the exterior of the residence is generally the side nearest the street (front or address side of the dwelling). The remaining sides, "B", "C", and "D" are located in an ascending order proceeding clockwise from side "A". Side identification for interior room equivalents follows the scheme established for the dwelling as a whole.

Lead-Based Paint Inspection

An interior surface-by-surface investigation for lead-based paint was conducted on July 19th through July 23rd, 2004. Testing was performed using a NITON X-Ray Fluorescence Spectrometer (XRF) model XL-309, serial number V875. Paints found to contain lead in a concentration equal to or greater than the Federal threshold of 1.0 mg/cm^2 of surface as measured by a XRF are considered lead-based paints by EPA / HUD guidelines.

The inspection indicated that no lead-based paint is present on the interior components within the randomly chosen units according to EPA/HUD guidelines.

It is important to keep in mind that although the EPA/HUD standard uses a criterion of 5,000 parts per million dry weight or 1.00 milligrams per square centimeter (1.00 mg/cm^2) for lead-based paint, there still may be lead present in those results reported as negative. In the event that lead is present, Federal OSHA and Washington State Department of Labor & Industries regulations will still apply, since neither agency has established a concentration of lead in paint below which the lead in construction standards do not apply. Workers wearing respiratory protection and who have received proper training in the handling of lead contaminated materials must be used for any construction activities (including manual scraping, manual/power sanding, heat gun applications, general cleanup, and demolition) that affect a paint film containing lead.

2.0 METHODOLOGY

The format used for the lead-based paint survey and assessment includes the following items:

2.1 Definition of Room Equivalent

A **Room Equivalent** is an identifiable part of a residence, such as a room, the exterior sides, or an exterior area. Hallways, stairways, foyers, exterior play areas, or gardens are all examples of room equivalents.

2.2 Delineation of Room Equivalent

Each room equivalent is made up of **Components**. Components may be located inside or outside a building. For example, components in a room are the ceiling, floor, walls, a door and its casing, the window sash, and window casings. The **Substrate** is the material underneath the paint. Many substrates exist; however, the HUD Guidelines recommend classifying substrates into one of six substrate types: brick, concrete, drywall, metal, plaster, and wood. These substrate types are intended to include a broad range of materials. If the true substrate is not one of the six types, the substrate that most closely matches the true substrate is selected. For substrates on top of substrates, such as plaster on concrete, the substrate directly beneath the painted surface is used. A **Testing Combination** is characterized by the room equivalent, component, substrate, and visible color of paint. The **Test Location** is a specific area on a testing combination where the XRF (x-ray fluorescence) instrument tests for lead-based paint.

2.3 Sampling Strategies

The **Sampling Strategy** adheres to the EPA Performance Characteristic Sheet for the particular XRF instrument used, as well as the manufacturer's modifications and recommendations. The XRF used for detection of lead-based paint in the quarters is the NITON XL-309 Spectrum Analyzer Lead Detector, serial number V875. It was manufactured by NITON Corporation, 900 Middlesex Turnpike, Building 8, Billerica, MA 01821. Each different testing combination for all room equivalents will be tested by XRF. According to the EPA/HUD Guidelines, a lead reading by XRF of 1.0 mg/cm^2 or above is considered positive for the presence of lead-based paint. Below 1.0 mg/cm^2 is considered negative. If there are any inconclusive readings, a paint-chip sample will be collected for laboratory analysis. Laboratory analysis will only be performed by an EPA NLLAP (National Lead Laboratory Accreditation Program) or AIHA ELLAP (Environmental Lead Laboratory Accreditation Program) approved laboratory. The paint-chip sample will be taken from a four square inch area that is representative of the paint on the testing combination and that is located in an unobtrusive area. Results are given in percent lead by weight and as mg/cm^2. According to the EPA/HUD Guidelines, a result of 0.5 percent or greater is considered positive. All other results are negative. There is no inconclusive range for laboratory measurements / results.

2.4 Chain of Custody Procedures

Chain of Custody procedures are as follows: The sample is placed in a proper container and given a unique identification number. This number is then entered on the chain-of-custody form which the inspector/risk assessor signs. A copy is retained and the original is sent with the sample to an accredited laboratory. Upon receipt, laboratory personnel verify that samples and chain-of-custody information match and sign the form. A copy is retained by the laboratory and the signed original is returned with the results to the inspector/risk assessor.

2.5 Assessment Logic

Lead-Based Paint Risk Assessment is performed by use of the following **Assessment Logic**. Any paint found to contain lead below the current EPA/HUD standard of 1.0mg/cm^2, regardless of condition, is considered non-hazardous. Components having lead levels at or above this standard are visually assessed for condition and approximate surface area. The paint condition is placed into one of three categories using the risk assessor's professional judgment. These categories are: *intact*, *fair*, and *poor*. Type of deterioration may also be noted. Size of area of deteriorated paint need not be measured, but simply estimated. Based on the approximate surface area of deteriorated paint, the risk assessor then assesses the condition as *intact, fair,* or *poor.* Since this risk assessment is performed in conjunction with the lead-based paint survey, all surfaces that produce negative results are eliminated and the condition evaluation is performed for all painted surfaces determined to be at or above the current EPA/HUD standard.

2.6 Description of Paint Condition Hazard Rankings

Hazard ranking protocol are assessed following the HUD Guidelines for Evaluation and Control of Lead Based Paint Hazards in Housing, dated June, 1995, Chapter 5: Risk Assessment; Table 5-3, Categories of Paint Film Quality. This information is summarized below.

Type of Building Component[1]	Total Area of Deteriorated Paint on Each Component		
	Intact[2]	**Fair**[3]	**Poor**[4]
Exterior components with large surface area	Entire surface area is intact	Less than or equal to 10 square feet	More than 10 square feet
Interior components with large surface area	Entire surface area is intact	Less than or equal to 2 square feet	More than 2 square feet
Interior and exterior components with small surface areas	Entire surface area is intact	Less than or equal to 10% of the total surface area of component	More than 10% of the total surface area or the component

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

Superscript 2 indicates surfaces in "intact" condition that currently require no repair or monitoring, and are not considered to be lead-based paint hazards as defined by Title X.

Superscript 3 indicates surfaces in "fair" condition should be repaired and/or monitored, but are not considered to be lead based paint hazards as defined by Title X.

Superscript 4 indicates surfaces in "poor" condition are considered to be lead based paint hazards as defined by Title X and should be addressed through abatement or interim controls.

In general, workplace practices required when lead-based paint is involved include wetting down the surface (except near electrical circuits), sealing work area to avoid contamination of adjacent areas, preparing worksite using plastic sheeting, using proper personal protective equipment (PPE), enforcing personal hygiene practices and cleaning the work area at completion.

The following practices should never be used on any surface coated with lead-based paint: open-flame burning or torching; machine sanding or grinding (unless equipped with HEPA exhaust vacuum system); dry sanding or scraping; uncontained hydroblasting or high-pressure washing; abrasive blasting or sandblasting; heat guns above 1100 °F; methylene chloride strippers; and torch cutting or welding on painted metal surfaces. Dry sweeping or compressed air should never be used for cleanup.

If residents are present, the work area should be sealed off so that leaded dust does not enter the living area. Any furniture present should be moved or covered with plastic. The presence of lead-based paint should be considered in all repair and maintenance work.

* **WAC 296-155-17603 Scope. WAC 296-155-176**, Lead, applies to all construction work where an employee may be occupationally exposed to lead. All construction work excluded from coverage in the general industry standard for lead by WAC 296-62-07521 (1)(b) is covered by this standard. Construction work is defined as work for construction, alteration and/or repair, including painting and decorating. It includes but is not limited to the following:

(1) Demolition or salvage of structures where lead or materials containing lead are present;
(2) Removal or encapsulation of materials containing lead;
(3) New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;

(4) Installation of products containing lead;
(5) Lead contamination/emergency cleanup;

**** WAC 296-155-17607 Permissible exposure limit.**

(1) The employer shall assure that no employee is exposed to lead at concentrations greater than fifty micrograms per cubic meter of air (50 $\mu g/m^3$) averaged over an 8-hour period.
(2) If an employee is exposed to lead for more than 8 hours in any workday the employees' allowable exposure, as a time weighted average (TWA) for that day, shall be reduced according to the following formula:
Allowable employee exposure ($\mu g/m^3$)=400 divided by hours worked in the day.
(3) When respirators are used to limit employee exposure as required by this section and all the requirements of WAC 296-155-17611(1) and 296-155-17613 have been met, employee exposure may be considered to be at the level provided by the protection factor of the respirator for those periods the respirator is worn. Those periods may be averaged with exposure levels during periods when respirators are not worn to determine the employee's daily TWA exposure.

The following sections are more detailed explanations of the options available as a response to lead-based paints. For this report this information is for informational purposes only, no lead-based paint was found on the exterior components of the structures located on the property:

3.1 Interim Control Options

Interim controls are intended to make dwellings lead-safe by temporarily controlling lead-based paint hazards, as opposed to abatement, which is intended to permanently (20 years) control lead hazards. Interim controls include specialized cleaning, repairs, maintenance, painting, temporary containment; ongoing monitoring of lead-based paint hazards and the establishment and operation of management and resident education programs. Interim control measures are fully effective only as long as they are carefully monitored, maintained, and periodically professionally reevaluated. If interim controls are properly maintained, they can be effective indefinitely. As long as surfaces are covered with lead-based paint, however, they constitute potential hazards.

Currently, the EPA regulations do not require certification of contractors who carry out interim controls. However, OSHA requires that all interim control workers be trained under the lead in construction standard. Since interim control activities disturb lead-based paint, typically take place in areas with excessive levels of leaded dust and are intended to reduce the potential hazards from lead-based paint and leaded dust not raise it, it is recommended that contractors with properly trained workers and supervisors perform all such work.

3.2 Acceptable Abatement Options

Abatement is the removal of either the building component or the paint itself or the near-permanent enclosure of lead-based paint hazards. From a public health perspective, properly conducted abatement is the desired response to lead hazards. Abatement has two principal advantages: it provides a long-term solution, and little monitoring or reevaluation of treated surface is necessary since failure is less likely to occur. In contrast to interim controls, lead-based paint abatement refers to a group of measures that can be expected to eliminate or reduce exposures to lead hazards for at least 20 years under normal conditions. Abatement activities include lead hazard evaluation, planning, cleaning, clearance, and waste disposal.

3.3 Paint Film Stabilization

Paint film stabilization is an interim control measure and includes stabilizing all deteriorated lead-based paint surfaces by removing deteriorating paint and repainting with a non-lead-based paint.

For paint film stabilization to be successful, the underlying substrate must be sound. If the substrate is not sound, the cause of the damage must first be corrected – eliminate any exterior leaks in the building envelope, eliminate any interior water leaks, etc. Once the cause of any substrate failure has been corrected, prepare the area to be repainted by sealing it off from the rest of the residence, repair the damaged substrate and prepare all the surfaces by wet scraping or wet sanding. Do not remove paint by burning or torching, power sanding without HEPA attachments, or abrasive blasting. Dry scraping and chemical strippers with methylene chloride are not recommended. Clean, degloss, neutralize, and rinse surfaces. The surface must be rinsed with clear water or a weak acid solution until it reaches a pH between 6 and 8 for most new paints. Good surface preparation will remove damaged, oxidizing, and deteriorated paint surfaces, but will also create leaded dust and chips. Therefore, after the surface has been allowed to dry it should be HEPA vacuumed to collect surface dust. After the surfaces have dried and been HEPA vacuumed, they should be primed and repainted following the manufacturer's recommendations. Following proper paint stabilization and recoating, containment removal and clearance testing is required.

Contractors with properly trained workers and supervisors can be used to accomplish all work through the surface preparation and cleanup stages; clearance obtained using a certified risk assessor; and then workers without lead training can perform application of primer and paint.

3.4 Dust Removal

With dust removal, both large, visible particles and small particles not visible to the naked eye need to be removed. Dust removal from a few surfaces may be sufficient as an interim control measure or dust removal may serve as a final cleanup following more comprehensive control activities.

Leaded dust can be difficult to remove with ordinary house cleaning measures. A combination of HEPA vacuuming and wet cleaning is recommended for leaded dust removal. Wet cleaning is conducted with a solution such as a lead-specific cleaner or trisodium phosphate detergent. Even with special equipment and procedures, leaded dust can be difficult to remove from dust traps, carpets, non-smooth surfaces, and surfaces abated by paint removal methods such as caustic chemicals. All cleaning should occur from top-to-bottom and from the most contaminated area to the cleaner area. Cleaning solution must be changed frequently, at least after every room is completed. Waste water should never be poured on the ground since the lead may be picked up on shoes, pet hair, etc. and returned to the house. The used cleaning solution may be hazardous waste and require special disposal procedures.

Areas being cleaned should be sealed from the rest of the residence to ensure that workers removing leaded dust do not spread lead from one household surface to another. Disposable rubber/latex gloves should be worn while washing the surfaces. Wash surfaces with warm soapy water, cleaning about 2-4 square feet at a time, then rinse with warm water and dry the area just cleaned with paper towels. Discard gloves, towels, sponges, etc. in a plastic bag and dispose of the bag in the trash.

APPENDIX 'A'

XRF SAMPLE LOG ATTACHMENT

Sample Log Attachment

Inspection date: Thursday, July 22, 2004

Client: KCHA-Woodside East Apartments ,
600 Andover Park West
Seattle, WA 98188

Site address: 16240 Northeast 14th Street
Bellevue, WA 98008

Inspector: Lance J. Kiblinger-WA
License no.: WA-0079

Report No:
KCH11804

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
001			Shutter Cal 1						0	Undetermined
002			Calibrate						1.06	Positive
003			Calibrate						1.12	Positive
004			Calibrate						1.04	Positive
005			Calibrate						1.15	Positive
006	B3	1	LIVING RM	A	WALL	Drywall			0.12	Negative
007	B3	1	LIVING RM	B	WALL	Drywall			0.17	Negative
008	B3	1	LIVING RM	C	WALL	Drywall			0.03	Negative
009	B3	1	LIVING RM	D	WALL	Drywall	Intact	White	0.12	Negative
010	B3	1	LIVING RM	D	Ceiling	Drywall	Intact	White	0.05	Negative
011	B3	1	LIVING RM	D	Baseboard	Metal	Intact	White	0.01	Negative
012	B3	1	LIVING RM	D	Baseboard	Wood	Intact	White	0	Negative
013	B3	1	LIVING RM	D	DOOR	Wood	Intact	White	0	Negative
014	B3	1	LIVING RM	D	DOOR CASING	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
015	B3	1	LIVING RM	D	BASEBOARD	Wood	Intact	White	0	Negative
016	B3	1	KITCHEN	A	WALL	Drywall	Intact	White	0.25	Negative
017	B3	1	KITCHEN	B	WALL	Drywall	Intact	White	0.2	Negative
018	B3	1	KITCHEN	C	WALL	Drywall	Intact	White	0.04	Negative
019	B3	1	KITCHEN	D	WALL	Drywall	Intact	White	0.41	Negative
020	B3	1	KITCHEN	D	Ceiling	Drywall	Intact	White	0	Negative
021	B3	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0.28	Negative
022	B3	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
023	B3	1	KITCHEN	D	CLOSET DOOR	Wood	Intact	White	0	Negative
024	B3	1	KITCHEN	A	CABINET-UPR	Wood	Intact	White	0	Negative
025	B3	1	KITCHEN	C	CABINET-LWR	Wood	Intact	White	0	Negative
026	B3	1	HALLWAY	C	WALL	Drywall	Intact	White	0.18	Negative
027	B3	1	HALLWAY	C	BASEBOARD	Wood	Intact	White	0.07	Negative
028	B3	1	HALLWAY	B	Wall	Drywall	Intact	White	0.03	Negative
029	B3	1	HALLWAY	B	CLOSET	Drywall	Intact	White	0	Negative
030	B3	1	HALLWAY	B	CLOSET	Drywall	Intact	White	0.08	Negative
031	B3	1	HALLWAY	B	CLOSET SHELF	Wood	Intact	White	0	Negative
032	B3	1	HALLWAY	B	DOOR	Wood	Intact	White	0	Negative
033	B3	1	HALLWAY	B	CLOSET CASING	Wood	Intact	White	0	Negative
034	B3	1	BATHROOM	A	Wall	Drywall	Intact	White	0.5	Negative
035	B3	1	BATHROOM	B	Wall	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
036	B3	1	BATHROOM	C	Wall	Drywall	Intact	White	0.05	Negative
037	B3	1	BATHROOM	D	Wall	Drywall	Intact	White	0	Negative
038	B3	1	BATHROOM	D	Ceiling	Drywall	Intact	White	0.33	Negative
039	B3	1	BATHROOM	C	CABINET	Drywall	Intact	White	0	Negative
040	B3	1	BEDROOM-1	A	Wall	Drywall	Intact	White	0.1	Negative
041	B3	1	BEDROOM-1	B	Wall	Drywall	Intact	White	0.02	Negative
042	B3	1	BEDROOM-1	C	Wall	Drywall	Intact	White	0.36	Negative
043	B3	1	BEDROOM-1	D	Wall	Drywall	Intact	White	0	Negative
044	B3	1	BEDROOM-1	D	Ceiling	Drywall	Intact	White	0.4	Negative
045	B3	1	BEDROOM-1	A	BASEBOARD	Wood	Intact	White	0.34	Negative
046	B3	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative
047	B3	1	BEDROOM-1	A	CASING	Drywall	Intact	White	0	Negative
048	B3	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0.39	Negative
049	B3	1	BEDROOM-1	B	CLOSET SHELF	Wood	Intact	White	0	Negative
050	B3	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
051	B3	1	BEDROOM-1	C	DOOR	Wood	Intact	White	0	Negative
052	B3	1	BEDROOM-1	C	DOOR CASING	Wood	Intact	White	0	Negative
053	B3	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.31	Negative
054	B3	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0.19	Negative
055	B3	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.23	Negative
056	B3	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
057	B3	1	BEDROOM-1	D	Ceiling 0	Drywall	Intact	White	0.19	Negative
058	B3	1	BEDROOM-1	C	BASEBOARD	Wood	Intact	White	0	Negative
059	B3	1	BEDROOM-1	C	WINDOW SILL	Wood	Intact	White	0	Negative
060	B3	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0.5	Negative
061	B3	1	BEDROOM-1	B	CLOSET SHELF	Wood	Intact	White	0	Negative
062	B3	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
063	B3	1	BEDROOM-1	A	DOOR	Wood	Intact	White	0	Negative
064	B3	1	BEDROOM-1	A	DOOR CASING	Wood	Intact	White	0	Negative
065	B3	1	BEDROOM-1	C	Baseboard	Metal	Intact	White	0.01	Negative
066	B9	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
067	B9	1	LIVING RM	B	WALL	Drywall	Intact	White	0.27	Negative
068	B9	1	LIVING RM	C	WALL	Drywall	Intact	White	0.02	Negative
069	B9	1	LIVING RM	D	WALL	Drywall	Intact	White	0.07	Negative
070	B9	1	LIVING RM	D	BASEBOARD	Wood	Intact	White	0	Negative
071	B9	1	LIVING RM	D	CLOSET DOOR	Wood	Intact	White	0	Negative
072	B9	1	LIVING RM	D	CLOSET SHELF	Wood	Intact	White	0	Negative
073	B9	1	LIVING RM	D	CLOSET	Drywall	Intact	White	0	Negative
074	B9	1	LIVING RM	D	CLOSET	Drywall	Intact	White	0.58	Negative
075	B9	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.44	Negative
076	B9	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative
077	B9	1	ENTRY	A	WALL	Drywall	Intact	White	0.16	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
078	B9	1	ENTRY	B	WALL	Drywall	Intact	White	0	Negative
079	B9	1	ENTRY	D	WALL	Drywall	Intact	White	0.08	Negative
080	B9	1	ENTRY	D	CEILING	Drywall	Intact	White	0.09	Negative
081	B9	1	ENTRY	A	DOOR	Wood	Intact	White	0	Negative
082	B9	1	ENTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
083	B9	1	KITCHEN	A	WALL	Drywall	Intact	White	0.29	Negative
084	B9	1	KITCHEN	B	WALL	Drywall	Intact	White	0.29	Negative
085	B9	1	KITCHEN	C	WALL	Drywall	Intact	White	0.16	Negative
086	B9	1	KITCHEN	D	WALL	Drywall	Intact	White	0.24	Negative
087	B9	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.28	Negative
088	B9	1	KITCHEN	A	CABINET-UPR	Wood	Intact	White	0	Negative
089	B9	1	KITCHEN	C	CABINET-LWR	Wood	Intact	White	0	Negative
090	B9	1	HALLWAY	A	WALL	Drywall	Intact	White	0.41	Negative
091	B9	1	HALLWAY	A	WALL	Drywall	Intact	White	0.01	Negative
092	B9	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
093	B9	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
094	B9	1	HALLWAY	D	CEILING	Drywall	Intact	White	0.3	Negative
095			Shutter Cal 1						0	Negative
096			Calibrate						1.07	Positive
097			Calibrate						1.06	Positive
098			Calibrate						1.02	Positive

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
099	B9	1	HALLWAY	D	BASEBOARD	Wood	Intact	White	0	Negative
100	B9	1	HALLWAY	B	CLOSET DOOR	Wood	Intact	White	0	Negative
101	B9	1	HALLWAY	B	CLOSET CASING	Wood	Intact	White	0	Negative
102	B9	1	HALLWAY	B	CLOSET	Drywall	Intact	White	0.01	Negative
103	B9	1	HALLWAY	B	CLOSET SHELF	Drywall	Intact	White	0	Negative
104	B9	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
105	B9	1	BATHROOM	B	WALL	Drywall	Intact	White	0	Negative
106	B9	1	BATHROOM	B	WALL	Drywall	Intact	White	0.58	Negative
107	B9	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
108	B9	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
109	B9	1	BATHROOM	D	CEILING	Drywall	Intact	White	0	Negative
110	B9	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
111	B9	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.02	Negative
112	B9	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0.2	Negative
113	B9	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.25	Negative
114	B9	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
115	B9	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.4	Negative
116	B9	1	BEDROOM-1	B	BASEBOARD	Wood	Intact	White	0	Negative
117	B9	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
118	B9	1	BEDROOM-1	B	CLOSET SHELF	Wood	Intact	White	0	Negative
119	B9	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
120	B9	1	BEDROOM-1	C	DOOR	Drywall	Intact	White	0	Negative
121	B9	1	BEDROOM-1	C	DOOR CASING	Drywall	Intact	White	0	Negative
122	B9	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative
123	B9	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0.39	Negative
124	B9	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0.33	Negative
125	B9	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0	Negative
126	B9	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0.24	Negative
127	B9	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0.48	Negative
128	B9	1	BEDROOM-2	B	BASEBOARD	Wood	Intact	White	0	Negative
129	B9	1	BEDROOM-2	B	CLOSET DOOR	Wood	Intact	White	0	Negative
130	B9	1	BEDROOM-2	B	CLOSET SHELF	Wood	Intact	White	0	Negative
131	B9	1	BEDROOM-2	B	CLOSET	Drywall	Intact	White	0.02	Negative
132	B9	1	BEDROOM-2	C	WINDOW SILL	Wood	Intact	White	0	Negative
133	B9	1	BEDROOM-2	A	DOOR	Wood	Intact	White	0	Negative
134	B9	1	BEDROOM-2	A	DOOR CASING	Wood	Intact	White	0.01	Negative
135	C4	1	ENTRY	A	WALL	Drywall	Intact	White	0.19	Negative
136	C4	1	ENTRY	B	WALL	Drywall	Intact	White	0.45	Negative
137	C4	1	ENTRY	C	WALL	Drywall	Intact	White	0	Negative
138	C4	1	ENTRY	B	WALL	Drywall	Intact	White	0.34	Negative
139	C4	1	ENTRY	D	WALL	Drywall	Intact	White	0.22	Negative
140	C4	1	ENTRY	D	CEILING	Drywall	Intact	White	0.32	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
141	C4	1	ENTRY	D	DOOR	Wood	Intact	White	0	Negative
142	C4	1	ENTRY	D	DOOR CASING	Wood	Intact	White	0	Negative
143	C4	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
144	C4	1	LIVING RM	C	WALL	Drywall	Intact	White	0.35	Negative
145	C4	1	LIVING RM	D	WALL	Drywall	Intact	White	0.44	Negative
146	C4	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.25	Negative
147	C4	1	LIVING RM	C	BASEBOARD	Wood	Intact	White	0	Negative
148	C4	1	LIVING RM	C	Baseboard	Metal	Intact	White	0	Negative
149	C4	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
150	C4	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
151	C4	1	KITCHEN	C	WALL	Drywall	Intact	White	0.21	Negative
152	C4	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
153	C4	1	KITCHEN	D	CEILING	Drywall	Intact	White	0	Negative
154	C4	1	KITCHEN	D	CLOSET DOOR	Wood	Intact	White	0.01	Negative
155	C4	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
156	C4	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
157	C4	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0	Negative
158	C4	1	KITCHEN	A	CABINET-LWR	Wood	Intact	White	0	Negative
159	C4	1	HALLWAY	A	WALL	Drywall	Intact	White	0.03	Negative
160	C4	1	HALLWAY	B	WALL	Drywall	Intact	White	0.29	Negative
161	C4	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
162	C4	1	HALLWAY	D	WALL	Drywall	Intact	White	0.47	Negative
163	C4	1	HALLWAY	D	BASEBOARD	Wood	Intact	White	0	Negative
164	C4	1	HALLWAY	B	CLOSET DOOR	Wood	Intact	White	0	Negative
165	C4	1	HALLWAY	B	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
166	C4	1	HALLWAY	B	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
167	C4	1	HALLWAY	B	CLOSET	Drywall	Intact	White	0.02	Negative
168	C4	1	HALLWAY	B	CLOSET SHELF	Wood	Intact	White	0	Negative
169	C4	1	BATHROOM	A	WALL	Drywall	Intact	White	0.01	Negative
170	C4	1	BATHROOM	B	WALL	Drywall	Intact	White	0	Negative
171	C4	1	BATHROOM	C	WALL	Drywall	Intact	White	0.36	Negative
172	C4	1	BATHROOM	D	WALL	Drywall	Intact	White	0.42	Negative
173	C4	1	BATHROOM	D	Ceiling 0	Drywall	Intact	White	0.3	Negative
174	C4	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
175	C4	1	BATHROOM	D	DOOR	Wood	Intact	White	0	Negative
176	C4	1	BATHROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
177	C4	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.45	Negative
178	C4	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0.15	Negative
179	C4	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.42	Negative
180	C4	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
181	C4	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.36	Negative
182	C4	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
183	C4	1	BEDROOM-1	B	BASEBOARD	Wood	Intact	White	0	Negative
184	C4	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
185	C4	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0	Negative
186	C4	1	BEDROOM-1	B	CLOSET SHELF	Wood	Intact	White	0	Negative
187	C4	1	BEDROOM-1	C	DOOR	Wood	Intact	White	0	Negative
188	C4	1	BEDROOM-1	C	DOOR CASING	Wood	Intact	White	0	Negative
189	C4	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.01	Negative
190	C4	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0.62	Negative
191	C4	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
192	C4	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
193	C4	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
194	C4	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
195	C4	1	BEDROOM-1	B	BASEBOARD	Wood	Intact	White	0	Negative
196	C4	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0.53	Negative
197	C4	1	BEDROOM-1	B	CLOSET SHELF	Wood	Intact	White	0	Negative
198	C4	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
199	C4	1	BEDROOM-1	A	DOOR	Wood	Intact	White	0.09	Negative
200	C4	1	BEDROOM-1	A	DOOR CASING	Wood	Intact	White	0	Negative
201	L102	1	LIVING RM	A	WALL	Drywall	Intact	White	0.49	Negative
202	L102	1	LIVING RM	B	WALL	Drywall	Intact	White	0.14	Negative
203	L102	1	LIVING RM	C	WALL	Drywall	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
204	L102	1	LIVING RM	D	WALL	Drywall	Intact	White	0.27	Negative
205	L102	1	LIVING RM	D	CEILING	Drywall	Intact	White	0	Negative
206	L102	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.01	Negative
207	L102	1	LIVING RM	C	BASEBOARD	Wood	Intact	White	0	Negative
208	L102	1	LIVING RM	C	WALL	Metal	Intact	White	0.06	Negative
209	L102	1	LIVING RM	B	DOOR	Wood	Intact	White	0	Negative
210	L102	1	LIVING RM	B	DOOR CASING	Wood	Intact	White	0	Negative
211	L102	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
212	L102	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
213	L102	1	KITCHEN	C	WALL	Drywall	Intact	White	0.43	Negative
214	L102	1	KITCHEN	D	WALL	Drywall	Intact	White	0.39	Negative
215	L102	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.48	Negative
216	L102	1	KITCHEN	D	CABINET-LWR	Wood	Intact	White	0	Negative
217	L102	1	KITCHEN	A	CABINET-UPR	Wood	Intact	White	0	Negative
218	L102	1	KITCHEN	B	CLOSET DOOR	Wood	Intact	White	0	Negative
219	L102	1	KITCHEN	B	CLOSET SHELF	Wood	Intact	White	0.01	Negative
220	L102	1	KITCHEN	B	CLOSET	Drywall	Intact	White	0.26	Negative
221	L102	1	HALLWAY	A	WALL	Drywall	Intact	White	0.43	Negative
222	L102	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
223	L102	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
224	L102	1	HALLWAY	C	WALL	Drywall	Intact	White	0.31	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
225	L102	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
226	L102	1	HALLWAY	D	CEILING	Drywall	Intact	White	0	Negative
227	L102	1	HALLWAY	D	BASEBOARD	Wood	Intact	White	0	Negative
228	L102	1	HALLWAY	D	CLOSET DOOR	Wood	Intact	White	0.01	Negative
229	L102	1	HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
230	L102	1	HALLWAY	D	CLOSET	Drywall	Intact	White	0	Negative
231	L102	1	BATHROOM	A	WALL	Drywall	Intact	White	0.22	Negative
232	L102	1	BATHROOM	B	WALL	Drywall	Intact	White	0.31	Negative
233	L102	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
234	L102	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
235	L102	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
236	L102	1	BATHROOM	D	CEILING	Drywall	Intact	White	0.49	Negative
237	L102	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
238	L102	1	BATHROOM	B	DOOR	Wood	Intact	White	0	Negative
239	L102	1	BATHROOM	B	DOOR CASING	Wood	Intact	White	0.01	Negative
240	L102	1	BATHROOM-1	A	WALL	Drywall	Intact	White	0	Negative
241	L102	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative
242	L102	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.55	Negative
243	L102	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0.49	Negative
244	L102	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
245	L102	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.39	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
246	L102	1	BEDROOM-1	C	BASEBOARD	Wood	Intact	White	0	Negative
247	L102	1	BEDROOM-1	C	WINDOW SILL	Wood	Intact	White	0	Negative
248	L102	1	BEDROOM-1	D	CLOSET DOOR	Wood	Intact	White	0	Negative
249	L102	1	BEDROOM-1	D	CLOSET SHELF	Wood	Intact	White	0	Negative
250	L102	1	BEDROOM-1	D	CLOSET	Drywall	Intact	White	0.32	Negative
251	L102	1	BEDROOM-1	A	DOOR	Drywall	Intact	White	0	Negative
252	L102	1	BEDROOM-1	A	DOOR CASING	Wood	Intact	White	0	Negative
253	L102	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0.1	Negative
254	L102	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0.35	Negative
255	L102	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0.12	Negative
256	L102	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0.19	Negative
257	L102	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0	Negative
258	L102	1	BEDROOM-2	D	CLOSET	Drywall	Intact	White	0.41	Negative
259	L102	1	BEDROOM-2	D	BASEBOARD	Wood	Intact	White	0	Negative
260	L102	1	BEDROOM-2	D	CLOSET DOOR	Wood	Intact	White	0	Negative
261	L102	1	BEDROOM-2	D	CLOSET SHELF	Wood	Intact	White	0	Negative
262	L102	1	BEDROOM-2	C	WINDOW SILL	Wood	Intact	White	0	Negative
263	L102	1	BEDROOM-2	C	DOOR	Wood	Intact	White	0	Negative
264	L102	1	BEDROOM-2	C	DOOR CASING	Wood	Intact	White	0	Negative
265	D13	1	KITCHEN	A	WALL	Drywall	Intact	White	0.49	Negative
266	D13	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
267	D13	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
268	D13	1	KITCHEN	D	WALL	Drywall	Intact	White	0.24	Negative
269	D13	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.2	Negative
270	D13	1	KITCHEN	A	CABINET-LWR	Wood	Intact	White	0	Negative
271	D13	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0	Negative
272	D13	1	KITCHEN	A	DOOR	Wood	Intact	White	0	Negative
273	D13	1	KITCHEN	A	DOOR CASING	Wood	Intact	White	0	Negative
274	D13	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
275	D13	1	LIVING RM	B	WALL	Drywall	Intact	White	0.08	Negative
276	D13	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
277	D13	1	LIVING RM	D	WALL	Drywall	Intact	White	0.39	Negative
278	D13	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.57	Negative
279	D13	1	LIVING RM	D	BASEBOARD	Wood	Intact	White	0	Negative
280	D13	1	LIVING RM	D	CLOSET DOOR	Wood	Intact	White	0	Negative
281	D13	1	LIVING RM	D	CLOSET	Drywall	Intact	White	0.08	Negative
282	D13	1	LIVING RM	D	CLOSET SHELF	Wood	Intact	White	0	Negative
283	D13	1	LIVING RM	C	WALL	Metal	Intact	White	0.2	Negative
284	D13	1	HALLWAY	A	WALL	Drywall	Intact	White	0	Negative
285	D13	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
286	D13	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
287	D13	1	HALLWAY	D	WALL	Drywall	Intact	White	0.3	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
288	D13	1	HALLWAY	D	CEILING	Drywall	Intact	White	0.46	Negative
289	D13	1	HALLWAY	B	CLOSET DOOR	Wood	Intact	White	0	Negative
290	D13	1	HALLWAY	B	CLOSET CASING	Wood	Intact	White	0	Negative
291	D13	1	HALLWAY	B	CLOSET SHELF	Wood	Intact	White	0.01	Negative
292	D13	1	HALLWAY	B	CLOSET	Drywall	Intact	White	0	Negative
293	D13	1	BATHROOM	A	WALL	Drywall	Intact	White	0.05	Negative
294	D13	1	BATHROOM	B	WALL	Drywall	Intact	White	0.48	Negative
295	D13	1	BATHROOM	C	WALL	Drywall	Intact	White	0.39	Negative
296	D13	1	BATHROOM	D	WALL	Drywall	Intact	White	0.01	Negative
297	D13	1	BATHROOM	D	CEILING	Drywall	Intact	White	0	Negative
298	D13	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
299	D13	1	BATHROOM	D	DOOR	Wood	Intact	White	0	Negative
300	D13	1	BATHROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
301			Calibrate						1.13	Positive
302			Calibrate						1.06	Positive
303			Calibrate						1.1	Positive
304			Shutter Cal 1						0	Undetermined
305			Calibrate						1.27	Positive
306			Calibrate						1.1	Positive
307			Calibrate						1.39	Positive
308	L106	1	LIVING RM	A	WALL	Drywall	Intact	White	0.37	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
309	L106	1	LIVING RM	B	WALL	Drywall	Intact	White	0.36	Negative
310	L106	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
311	L106	1	LIVING RM	D	WALL	Drywall	Intact	White	0.15	Negative
312	L106	1	LIVING RM	D	Ceiling	Drywall	Intact	White	0	Negative
313	L106	1	LIVING RM	C	BASEBOARD	Wood	Intact	White	0	Negative
314	L106	1	LIVING RM	C	DOOR CASING	Wood	Intact	White	0	Negative
315	L106	1	HALLWAY	A	WALL	Drywall	Intact	White	0	Negative
316	L106	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
317	L106	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
318	L106	1	HALLWAY	D	WALL	Drywall	Intact	White	0.5	Negative
319	L106	1	HALLWAY	D	Ceiling	Drywall	Intact	White	0.37	Negative
320	L106	1	HALLWAY	B	DOOR	Wood	Intact	White	0	Negative
321	L106	1	HALLWAY	B	DOOR CASING	Wood	Intact	White	0	Negative
322	L106	1	HALLWAY	C	CLOSET DOOR	Wood	Intact	White	0	Negative
323	L106	1	HALLWAY	C	CLOSET CASING	Wood	Intact	White	0	Negative
324	L106	1	HALLWAY	C	BASEBOARD	Wood	Intact	White	0.49	Negative
325	L106	1	BATHROOM	B	WALL	Drywall	Intact	White	0.25	Negative
326	L106	1	BATHROOM	C	WALL	Drywall	Intact	White	0.24	Negative
327	L106	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
328	L106	1	BATHROOM	A	WALL	Drywall	Intact	White	0.05	Negative
329	L106	1	BATHROOM	A	Ceiling	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
330	L106	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
331	L106	1	BATHROOM	B	DOOR	Wood	Intact	White	0	Negative
332	L106	1	BATHROOM	B	DOOR CASING	Wood	Intact	White	0	Negative
333	L106	1	BEDROOM-1	A	WALL	Plaster	Intact	White	0	Negative
334	L106	1	BEDROOM-1	B	WALL	Plaster	Intact	White	0.44	Negative
335	L106	1	BEDROOM-1	C	WALL	Plaster	Intact	White	0.08	Negative
336	L106	1	BEDROOM-1	D	WALL	Plaster	Intact	White	0.4	Negative
337	L106	1	BEDROOM-1	D	Ceiling	Plaster	Intact	White	0	Negative
338	L106	1	BEDROOM-1	B	DOOR	Wood	Intact	White	0	Negative
339	L106	1	BEDROOM-1	B	DOOR CASING	Wood	Intact	White	0	Negative
340	L106	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0.03	Negative
341	L106	1	BEDROOM-1	B	CLOSET DOOR	Drywall	Intact	White	0	Negative
342	L106	1	BEDROOM-1	B	CLOSET SHELF	Drywall	Intact	White	0	Negative
343	L106	1	BEDROOM-1	C	WINDOW SILL	Wood	Intact	White	0	Negative
344	L106	1	BEDROOM-1	A	BASEBOARD	Wood	Intact	White	0	Negative
345	L106	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0.33	Negative
346	L106	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0	Negative
347	L106	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0.21	Negative
348	L106	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0	Negative
349	L106	1	BEDROOM-2	D	Ceiling	Drywall	Intact	White	0	Negative
350	L106	1	BEDROOM-2	C	DOOR	Wood	Intact	White	0.16	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
351	L106	1	BEDROOM-2	C	DOOR CASING	Wood	Intact	White	0	Negative
352	L106	1	BEDROOM-2	C	CLOSET	Drywall	Intact	White	0.28	Negative
353	L106	1	BEDROOM-2	C	CLOSET DOOR	Drywall	Intact	White	0	Negative
354	L106	1	BEDROOM-2	C	CLOSET SHELF	Drywall	Intact	White	0	Negative
355	L106	1	BEDROOM-2	B	BASEBOARD	Drywall	Intact	White	0	Negative
356	L106	1	BEDROOM-2	A	WINDOW SILL	Drywall	Intact	White	0	Negative
357	L106	1	BEDROOM-2	A	WINDOW SILL	Drywall	Intact	White	0	Negative
358	L106	1	BEDROOM-3	A	WALL	Drywall	Intact	White	0.45	Negative
359	L106	1	BEDROOM-3	B	WALL	Drywall	Intact	White	0	Negative
360	L106	1	BEDROOM-3	C	WALL	Drywall	Intact	White	0	Negative
361	L106	1	BEDROOM-3	D	WALL	Drywall	Intact	White	0	Negative
362	L106	1	BEDROOM-3	D	Ceiling	Drywall	Intact	White	0	Negative
363	L106	1	BEDROOM-3	C	CLOSET	Drywall	Intact	White	0.45	Negative
364	L106	1	BEDROOM-3	C	CLOSET DOOR	Wood	Intact	White	0	Negative
365	L106	1	BEDROOM-3	C	CLOSET SHELF	Wood	Intact	White	0	Negative
366	L106	1	BEDROOM-3	C	DOOR	Wood	Intact	White	0	Negative
367	L106	1	BEDROOM-3	C	DOOR CASING	Wood	Intact	White	0	Negative
368	L106	1	BEDROOM-3	D	BASEBOARD	Wood	Intact	White	0	Negative
369	L106	1	BEDROOM-3	A	WINDOW SILL	Wood	Intact	White	0	Negative
370	L106	1	KITCHEN	A	WALL	Drywall	Intact	White	0.1	Negative
371	L106	1	KITCHEN	B	WALL	Drywall	Intact	White	0.23	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
372	L106	1	KITCHEN	C	WALL	Drywall	Intact	White	0.21	Negative
373	L106	1	KITCHEN	D	WALL	Drywall	Intact	White	0.12	Negative
374	L106	1	KITCHEN	D	Ceiling	Drywall	Intact	White	0	Negative
375	L106	1	KITCHEN	D	CABINET-UPR	Wood	Intact	White	0	Negative
376	L106	1	KITCHEN	B	CABINET-LWR	Wood	Intact	White	0	Negative
377	L106	1	KITCHEN	B	BASEBOARD	Wood	Intact	White	0	Negative
378	L106	1	KITCHEN	C	WINDOW SILL	Wood	Intact	White	0	Negative
379	L106	1	PANTRY	A	DOOR	Wood	Intact	White	0	Negative
380	L106	1	PANTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
381	L106	1	PANTRY	A	SHELF	Wood	Intact	White	0	Negative
382	L106	1	PANTRY	A	WALL	Drywall	Intact	White	0	Negative
383	V6	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
384	V6	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
385	V6	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
386	V6	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
387	V6	1	LIVING RM	D	Ceiling 0	Drywall	Intact	White	0	Negative
388	V6	1	LIVING RM	A	DOOR CASING	Wood	Intact	White	0.41	Negative
389	V6	1	LIVING RM	A	DOOR	Wood	Intact	White	0.34	Negative
390	V6	1	KITCHEN	A	WALL	Drywall	Intact	White	0.52	Negative
391	V6	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
392	V6	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
393	V6	1	KITCHEN	B	Ceiling 0	Drywall	Intact	White	0.03	Negative
394	V6	1	KITCHEN	B	CLOSET	Drywall	Intact	White	0	Negative
395	V6	1	KITCHEN	C	CLOSET SHELF	Wood	Intact	White	0.38	Negative
396	V6	1	HALLWAY	B	WALL	Drywall	Intact	White	0.43	Negative
397	V6	1	HALLWAY	D	WALL	Drywall	Intact	White	0.19	Negative
398	V6	1	HALLWAY	A	WALL	Drywall	Intact	White	0	Negative
399	V6	1	HALLWAY	A	Ceiling	Drywall	Intact	White	0.32	Negative
400	V6	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
401	V6	1	BATHROOM	B	WALL	Drywall	Intact	White	0.01	Negative
402	V6	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
403	V6	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
404	V6	1	BATHROOM	D	Ceiling	Drywall	Intact	White	0.01	Negative
405	V6	1	BATHROOM	D	DOOR	Drywall	Intact	White	0	Negative
406	V6	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
407	V6	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
408	V6	1	BEDROOM	C	WALL	Drywall	Intact	White	0	Negative
409	V6	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
410	V6	1	BEDROOM	D	Ceiling	Drywall	Intact	White	0	Negative
411	V6	1	BEDROOM	B	CLOSET	Drywall	Intact	White	0	Negative
412	V6	1	BEDROOM	B	CLOSET SHELF	Wood	Intact	White	0.01	Negative
413	V6	1	BEDROOM	C	DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
414	V6	1	BEDROOM	C	BASEBOARD	Wood	Intact	White	0.02	Negative
415	Z4	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
416	Z4	1	LIVING RM	B	WALL	Drywall	Intact	White	0.01	Negative
417	Z4	1	LIVING RM	C	WALL	Drywall	Intact	White	0.01	Negative
418	Z4	1	LIVING RM	D	WALL	Drywall	Intact	White	0.01	Negative
419	Z4	1	LIVING RM	D	Ceiling	Drywall	Intact	White	0	Negative
420	Z4	1	LIVING RM	C	DOOR	Wood	Intact	White	0	Negative
421	Z4	1	LIVING RM	C	DOOR CASING	Wood	Intact	BROWN	0	Negative
422	Z4	1	KITCHEN	A	WALL	Drywall	Intact	BROWN	0	Negative
423	Z4	1	KITCHEN	B	WALL	Drywall	Intact	BROWN	0	Negative
424	Z4	1	KITCHEN	C	WALL	Drywall	Intact	BROWN	0	Negative
425	Z4	1	KITCHEN	C	Ceiling	Drywall	Intact	WHITE	0	Negative
426	Z4	1	KITCHEN	C	CLOSET	Drywall	Intact	WHITE	0.02	Negative
427	Z4	1	HALLWAY	A	WALL	Drywall	Intact	WHITE	0.01	Negative
428	Z4	1	HALLWAY	B	WALL	Drywall	Intact	WHITE	0	Negative
429	Z4	1	HALLWAY	D	WALL	Drywall	Intact	WHITE	0	Negative
430	Z4	1	HALLWAY	D	Ceiling	Drywall	Intact	WHITE	0	Negative
431	Z4	1	BATHROOM	A	WALL	Drywall	Intact	WHITE	0	Negative
432	Z4	1	BATHROOM	B	WALL	Drywall	Intact	WHITE	0	Negative
433	Z4	1	BATHROOM	C	WALL	Drywall	Intact	WHITE	0.03	Negative
434	Z4	1	BATHROOM	D	WALL	Drywall	Intact	WHITE	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
435	Z4	1	BATHROOM	D	Ceiling	Drywall	Intact	WHITE	0	Negative
436	Z4	1	BEDROOM	C	WALL	Drywall	Intact	WHITE	0.01	Negative
437	Z4	1	BEDROOM	D	WALL	Drywall	Intact	WHITE	0.01	Negative
438	Z4	1	BEDROOM	A	WALL	Drywall	Intact	WHITE	0	Negative
439	Z4	1	BEDROOM	B	WALL	Drywall	Intact	WHITE	0	Negative
440	Z4	1	BEDROOM	B	Ceiling	Drywall	Intact	WHITE	0	Negative
441	Z4	1	BEDROOM	B	CLOSET	Drywall	Intact	WHITE	0	Negative
442	Z4	1	BEDROOM	C	CLOSET SHELF	Wood	Intact	WHITE	0.04	Negative
443	X7	1	LIVING RM	A	WALL	Drywall	Intact	WHITE	0.06	Negative
444	X7	1	LIVING RM	B	WALL	Drywall	Intact	WHITE	0.41	Negative
445	X7	1	LIVING RM	C	WALL	Drywall	Intact	WHITE	0.45	Negative
446	X7	1	LIVING RM	D	WALL	Drywall	Intact	WHITE	0	Negative
447	X7	1	LIVING RM	D	Ceiling	Drywall	Intact	WHITE	0.34	Negative
448	X7	1	HALLWAY	B	WALL	Drywall	Intact	WHITE	0	Negative
449	X7	1	HALLWAY	D	WALL	Drywall	Intact	WHITE	0.4	Negative
450	X7	1	HALLWAY	C	WALL	Drywall	Intact	WHITE	0.19	Negative
451	X7	1	HALLWAY	C	Ceiling	Drywall	Intact	WHITE	0	Negative
452	X7	1	KITCHEN	A	WALL	Drywall	Intact	WHITE	0.24	Negative
453	X7	1	KITCHEN	B	WALL	Drywall	Intact	WHITE	0.41	Negative
454	X7	1	KITCHEN	D	WALL	Drywall	Intact	WHITE	0.39	Negative
455	X7	1	KITCHEN	D	Ceiling	Drywall	Intact	WHITE	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
456	X7	1	KITCHEN	D	Ceiling	Drywall	Intact	WHITE	0	Negative
457	X7	1	KITCHEN	D	Ceiling	Drywall	Intact	WHITE	0.14	Negative
458	X7	1	KITCHEN	A	CLOSET	Drywall	Intact	WHITE	0.3	Negative
459	X7	1	BATHROOM	A	WALL	Drywall	Intact	WHITE	0	Negative
460	X7	1	BATHROOM	B	WALL	Drywall	Intact	WHITE	0.18	Negative
461	X7	1	BATHROOM	C	WALL	Drywall	Intact	WHITE	0.51	Negative
462	X7	1	BATHROOM	D	WALL	Drywall	Intact	WHITE	0.2	Negative
463	X7	1	BATHROOM	D	Ceiling	Drywall	Intact	WHITE	0	Negative
464	X7	1	BEDROOM	B	WALL	Drywall	Intact	WHITE	0.39	Negative
465	X7	1	BEDROOM	C	WALL	Drywall	Intact	WHITE	0	Negative
466	X7	1	BEDROOM	D	WALL	Drywall	Intact	WHITE	0.26	Negative
467	X7	1	BEDROOM	A	WALL	Drywall	Intact	WHITE	0.03	Negative
468	X7	1	BEDROOM	A	Ceiling	Drywall	Intact	WHITE	0	Negative
469	X7	1	BEDROOM	A	CLOSET	Drywall	Intact	WHITE	0.45	Negative
470	E108	1	LIVING RM	A	WALL	Drywall	Intact	WHITE	0.41	Negative
471	E108	1	LIVING RM	B	WALL	Drywall	Intact	WHITE	0.26	Negative
472	E108	1	LIVING RM	C	WALL	Drywall	Intact	WHITE	0.3	Negative
473	E108	1	LIVING RM	D	WALL	Drywall	Intact	WHITE	0	Negative
474	E108	1	LIVING RM	D	Ceiling	Drywall	Intact	WHITE	0.41	Negative
475	E108	1	LIVING RM	C	DOOR CASING	Wood	Intact	WHITE	0	Negative
476	E108	1	LIVING RM	C	WINDOW SILL	Wood	Intact	WHITE	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
477	E108	1	LIVING RM	B	MISC MATERIAL	Metal	Intact	WHITE	0	Negative
478	E108	1	KITCHEN	D	CABINET-UPR	Metal	Intact	WHITE	0.01	Negative
479	E108	1	KITCHEN	B	CABINET-LWR	Metal	Intact	WHITE	0	Negative
480	E108	1	KITCHEN	D	WALL	Drywall	Intact	WHITE	0	Negative
481	E108	1	KITCHEN	A	WALL	Drywall	Intact	WHITE	0	Negative
482	E108	1	KITCHEN	D	WALL	Drywall	Intact	WHITE	0	Negative
483	E108	1	KITCHEN	D	Ceiling	Drywall	Intact	WHITE	0	Negative
484	E108	1	PANTRY	A	DOOR	Wood	Intact	WHITE	0	Negative
485	E108	1	PANTRY	A	SHELF	Wood	Intact	WHITE	0.01	Negative
486	E108	1	PANTRY	B	WALL	Drywall	Intact	WHITE	0	Negative
487	E108	1	HALLWAY	A	WALL	Drywall	Intact	WHITE	0	Negative
488	E108	1	HALLWAY	B	WALL	Drywall	Intact	WHITE	0	Negative
489	E108	1	HALLWAY	C	WALL	Drywall	Intact	WHITE	0	Negative
490	E108	1	HALLWAY	D	WALL	Drywall	Intact	WHITE	0	Negative
491	E108	1	HALLWAY	D	Ceiling 0	Drywall	Intact	WHITE	0	Negative
492	E108	1	HALLWAY	D	DOOR	Wood	Intact	WHITE	0.01	Negative
493	E108	1	HALLWAY	D	DOOR CASING	Wood	Intact	WHITE	0.01	Negative
494	E108	1	HALLWAY	A	CLOSET DOOR	Wood	Intact	WHITE	0	Negative
495	E108	1	HALLWAY	A	CLOSET SHELF	Wood	Intact	WHITE	0	Negative
496	E108	1	HALLWAY	A	CLOSET SHELF	Wood	Intact	WHITE	0.01	Negative
497	E108	1	HALLWAY	C	CLOSET	Drywall	Intact	WHITE	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
498	E108	1	BEDROOM-1	A	WALL	Drywall	Intact	WHITE	0	Negative
499	E108	1	BEDROOM-1	B	WALL	Drywall	Intact	WHITE	0	Negative
500	E108	1	BEDROOM-1	C	WALL	Drywall	Intact	WHITE	0.01	Negative
501	E108	1	BEDROOM-1	C	WALL	Drywall	Intact	WHITE	0.01	Negative
502	E108	1	BEDROOM-1	C	Ceiling 0	Drywall	Intact	WHITE	0	Negative
503	E108	1	BEDROOM-1	C	DOOR	Wood	Intact	WHITE	0.01	Negative
504	E108	1	BEDROOM-1	C	DOOR CASING	Wood	Intact	WHITE	0	Negative
505	E108	1	BEDROOM-1	C	CLOSET DOOR	Wood	Intact	WHITE	0.01	Negative
506	E108	1	BEDROOM-1	0	CLOSET SHELF	Wood	Intact	WHITE	0.37	Negative
507	E108	1	BEDROOM-1	0	CLOSET	Drywall	Intact	WHITE	0	Negative
508	E108	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	WHITE	0.25	Negative
509	E108	1	BEDROOM-1	A	MISC MATERIAL	Metal	Intact	WHITE	0.49	Negative
510	E108	1	BEDROOM-2	A	WALL	Drywall	Intact	WHITE	-0.33	Negative
511	E108	1	BEDROOM-2	B	WALL	Drywall	Intact	WHITE	0.24	Negative
512	E108	1	BEDROOM-2	C	WALL	Drywall	Intact	WHITE	0	Negative
513	E108	1	BEDROOM-2	D	WALL	Drywall	Intact	WHITE	0.01	Negative
514	E108	1	BEDROOM-2	D	Ceiling 0	Drywall	Intact	WHITE	0	Negative
515	E108	1	BEDROOM-2	C	DOOR	Wood	Intact	WHITE	0.01	Negative
516	E108	1	BEDROOM-2	C	DOOR CASING	Wood	Intact	WHITE	0	Negative
517	E108	1	BEDROOM-2	C	CLOSET DOOR	Wood	Intact	WHITE	0	Negative
518	E108	1	BEDROOM-2	C	CLOSET SHELF	Wood	Intact	WHITE	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
519	E108	1	BEDROOM-2	A	WINDOW SILL	Wood	Intact	WHITE	0	Negative
520	E108	1	BEDROOM-2	A	Baseboard	Metal	Intact	WHITE	0	Negative
521	E108	1	BATHROOM	A	WALL	Drywall	Intact	WHITE	0	Negative
522	E108	1	BATHROOM	B	WALL	Drywall	Intact	WHITE	0	Negative
523	E108	1	BATHROOM	C	WALL	Drywall	Intact	WHITE	0	Negative
524	E108	1	BATHROOM	D	WALL	Drywall	Intact	WHITE	0	Negative
525	E108	1	BATHROOM	D	Ceiling 0	Drywall	Intact	WHITE	0	Negative
526	E108	1	BATHROOM	C	CABINET	Wood	Intact	WHITE	0.02	Negative
527	E108	1	BATHROOM	D	DOOR	Wood	Intact	WHITE	0.01	Negative
528	E108	1	BATHROOM	D	DOOR CASING	Wood	Intact	WHITE	0	Negative
529			Calibrate						1.22	Positive
530			Calibrate						1.38	Positive
531			Calibrate						1.1	Positive
532			Calibrate						1.25	Positive
533			Calibrate						1.17	Positive
534			Shutter Cal 1						0	Undetermined
535			Calibrate						1.03	Positive
536			Calibrate						1	Positive
537			Calibrate						1.38	Positive
538			Calibrate						1.21	Positive
539	D13	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.38	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
540	D13	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0.49	Negative
541	D13	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.29	Negative
542	D13	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.32	Negative
543	D13	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative
544	D13	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
545	D13	1	BEDROOM-1	B	CLOSET SHELF	Wood	Intact	White	0	Negative
546	D13	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0.17	Negative
547	D13	1	BEDROOM-1	B	BASEBOARD	Wood	Intact	White	0.03	Negative
548	D13	1	BEDROOM-1	C	DOOR	Wood	Intact	White	0.01	Negative
549	D13	1	BEDROOM-1	C	DOOR CASING	Wood	Intact	White	0	Negative
550	D13	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.5	Negative
551	D13	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0.17	Negative
552	D13	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.03	Negative
553	D13	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0.12	Negative
554	D13	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.46	Negative
555	D13	1	BEDROOM-1	B	CLOSET DOOR	Drywall	Intact	White	0	Negative
556	D13	1	BEDROOM-1	B	CLOSET SHELF	Drywall	Intact	White	0	Negative
557	D13	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0.43	Negative
558	D13	1	BEDROOM-1	A	BASEBOARD	Wood	Intact	White	0	Negative
559	D13	1	BEDROOM-1	A	DOOR	Wood	Intact	White	0	Negative
560	D13	1	BEDROOM-1	A	DOOR CASING	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
561	A9	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative
562	A9	1	ENTRY	B	WALL	Drywall	Intact	White	0.36	Negative
563	A9	1	ENTRY	D	WALL	Drywall	Intact	White	0.47	Negative
564	A9	1	ENTRY	D	CEILING	Drywall	Intact	White	0.44	Negative
565	A9	1	ENTRY	A	BASEBOARD	Wood	Intact	White	0	Negative
566	A9	1	ENTRY	A	DOOR	Wood	Intact	White	0	Negative
567	A9	1	ENTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
568	A9	1	ENTRY	B	CLOSET	Wood	Intact	White	0	Negative
569	A9	1	ENTRY	B	CLOSET	Drywall	Intact	White	0.04	Negative
570	A9	1	LIVING RM	A	WALL	Drywall	Intact	White	0.43	Negative
571	A9	1	LIVING RM	B	WALL	Drywall	Intact	White	0.43	Negative
572	A9	1	LIVING RM	C	WALL	Drywall	Intact	White	0.2	Negative
573	A9	1	LIVING RM	D	WALL	Drywall	Intact	White	0.24	Negative
574	A9	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.34	Negative
575	A9	1	LIVING RM	D	BASEBOARD	Wood	Intact	White	0	Negative
576	A9	1	LIVING RM	C	WALL	Metal	Intact	White	0	Negative
577	A9	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
578	A9	1	KITCHEN	B	WALL	Drywall	Intact	White	0.24	Negative
579	A9	1	KITCHEN	C	WALL	Drywall	Intact	White	0.4	Negative
580	A9	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
581	A9	1	KITCHEN	D	CEILING	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
582	A9	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.01	Negative
583	A9	1	KITCHEN	C	WINDOW SILL	Wood	Intact	White	0.01	Negative
584	A9	1	KITCHEN	D	CLOSET DOOR	Wood	Intact	White	0.11	Negative
585	A9	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
586	A9	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0.51	Negative
587	A9	1	KITCHEN	D	CABINET-UPR	Wood	Intact	White	0	Negative
588	A9	1	KITCHEN	B	CABINET-LWR	Wood	Intact	White	0	Negative
589	A9	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
590	A9	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
591	A9	1	BEDROOM	C	WALL	Drywall	Intact	White	0.14	Negative
592	A9	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
593	A9	1	BEDROOM	D	CEILING	Drywall	Intact	White	0.12	Negative
594	A9	1	BEDROOM	A	WINDOW SILL	Wood	Intact	White	0	Negative
595	A9	1	BEDROOM	A	BASEBOARD	Wood	Intact	White	0	Negative
596	A9	1	BEDROOM	B	DOOR	Wood	Intact	White	0	Negative
597	A9	1	BEDROOM	B	DOOR CASING	Wood	Intact	White	0	Negative
598	A9	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
599	A9	1	BATHROOM	B	WALL	Drywall	Intact	White	0.26	Negative
600	A9	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
601	A9	1	BATHROOM	D	WALL	Drywall	Intact	White	0.11	Negative
602	A9	1	BATHROOM	D	CEILING	Drywall	Intact	White	0.15	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
603	A9	1	BATHROOM	B	DOOR	Wood	Intact	White	0	Negative
604	A9	1	BATHROOM	B	DOOR CASING	Wood	Intact	White	0	Negative
605	A9	1	BEDROOM	D	CLOSET	Drywall	Intact	White	0	Negative
606	A9	1	BEDROOM	B	CLOSET DOOR	Drywall	Intact	White	0	Negative
607	A9	1	BEDROOM	B	CLOSET DOOR CASING	Drywall	Intact	White	0.08	Negative
608	A2	1	ENTRY	A	WALL	Drywall	Intact	White	0.44	Negative
609	A2	1	ENTRY	B	WALL	Drywall	Intact	White	0.08	Negative
610	A2	1	ENTRY	C	WALL	Drywall	Intact	White	0	Negative
611	A2	1	ENTRY	D	WALL	Drywall	Intact	White	0.46	Negative
612	A2	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
613	A2	1	ENTRY	D	CEILING	Drywall	Intact	White	0.07	Negative
614	A2	1	ENTRY	A	DOOR	Wood	Intact	White	0	Negative
615	A2	1	ENTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
616	A2	1	ENTRY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
617	A2	1	ENTRY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
618	A2	1	ENTRY	D	BASEBOARD	Wood	Intact	White	0	Negative
619	A2	1	ENTRY	D	CLOSET	Drywall	Intact	White	0.16	Negative
620	A2	1	LIVING RM	A	WALL	Drywall	Intact	White	0.02	Negative
621	A2	1	LIVING RM	B	WALL	Drywall	Intact	White	0.01	Negative
622	A2	1	LIVING RM	C	WALL	Drywall	Intact	White	0.02	Negative
623	A2	1	LIVING RM	D	WALL	Drywall	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
624	A2	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.35	Negative
625	A2	1	LIVING RM	D	BASEBOARD	Drywall	Intact	White	0.01	Negative
626	A2	1	LIVING RM	C	WALL	Metal	Intact	White	0.01	Negative
627	A2	1	KITCHEN	A	WALL	Drywall	Intact	White	0.14	Negative
628	A2	1	KITCHEN	B	WALL	Drywall	Intact	White	0.03	Negative
629	A2	1	KITCHEN	C	WALL	Drywall	Intact	White	0.01	Negative
630	A2	1	KITCHEN	D	WALL	Drywall	Intact	White	0.03	Negative
631	A2	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.52	Negative
632	A2	1	KITCHEN	B	CLOSET	Drywall	Intact	White	0.01	Negative
633	A2	1	KITCHEN	B	CLOSET DOOR	Wood	Intact	White	0	Negative
634	A2	1	KITCHEN	B	CABINET-UPR	Wood	Intact	White	0	Negative
635	A2	1	KITCHEN	D	CABINET-LWR	Wood	Intact	White	0	Negative
636	A2	1	KITCHEN	C	WINDOW SILL	Wood	Intact	White	0	Negative
637	A2	1	BEDROOM	A	WALL	Drywall	Intact	White	0.22	Negative
638	A2	1	BEDROOM	B	WALL	Drywall	Intact	White	0.1	Negative
639	A2	1	BEDROOM	C	WALL	Drywall	Intact	White	0.52	Negative
640	A2	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
641	A2	1	BEDROOM	D	CEILING	Drywall	Intact	White	0.28	Negative
642	A2	1	BEDROOM	D	DOOR	Wood	Intact	White	0	Negative
643	A2	1	BEDROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
644	A2	1	BEDROOM	B	CLOSET	Drywall	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
645	A2	1	BEDROOM	B	DOOR	Drywall	Intact	White	0	Negative
646	A2	1	BEDROOM	B	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
647	A2	1	BEDROOM	B	BASEBOARD	Wood	Intact	White	0	Negative
648	A2	1	BEDROOM	A	WINDOW SILL	Wood	Intact	White	0	Negative
649	A2	1	BATHROOM	A	WALL	Drywall	Intact	White	0.01	Negative
650	A2	1	BATHROOM	B	WALL	Drywall	Intact	White	0	Negative
651	A2	1	BATHROOM	C	WALL	Drywall	Intact	White	0.21	Negative
652	A2	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
653	A2	1	BATHROOM	D	CEILING	Drywall	Intact	White	0.02	Negative
654	A2	1	BATHROOM	D	CABINET	Wood	Intact	White	0	Negative
655	A2	1	BATHROOM	D	DOOR	Wood	Intact	White	0	Negative
656	A2	1	BATHROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
657	E108	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative
658	E108	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative
659	E108	1	ENTRY	C	WALL	Drywall	Intact	White	0.15	Negative
660	E108	1	ENTRY	D	WALL	Drywall	Intact	White	0.41	Negative
661	E108	1	ENTRY	D	CEILING	Drywall	Intact	White	0.38	Negative
662	E108	1	ENTRY	C	CLOSET DOOR	Wood	Intact	White	0.09	Negative
663	E108	1	ENTRY	C	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
664	E108	1	ENTRY	C	CLOSET	Drywall	Intact	White	0	Negative
665	E108	1	LIVING RM	A	WALL	Drywall	Intact	White	0.53	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
666			Shutter Cal 1						0	Undetermined
667			Calibrate						1	Positive
668			Calibrate						1	Positive
669			Calibrate						1.08	Positive
670			Calibrate						1.02	Positive
671	O105	1	ENTRY	A	WALL	Drywall	Intact	White	0.24	Negative
672	O105	1	ENTRY	B	WALL	Drywall	Intact	White	0.44	Negative
673	O105	1	ENTRY	C	WALL	Drywall	Intact	White	0.24	Negative
674	O105	1	ENTRY	D	WALL	Drywall	Intact	White	0.47	Negative
675	O105	1	ENTRY	D	CEILING	Drywall	Intact	White	0.16	Negative
676	O105	1	ENTRY	C	CLOSET DOOR	Wood	Intact	White	0.04	Negative
677	O105	1	ENTRY	C	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
678	O105	1	ENTRY	C	CLOSET	Drywall	Intact	White	0.07	Negative
679	O105	1	ENTRY	C	CLOSET SHELF	Wood	Intact	White	0	Negative
680	O105	1	ENTRY	D	CLOSET	Drywall	Intact	White	0	Negative
681	O105	1	ENTRY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
682	O105	1	ENTRY	D	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
683	O105	1	LIVING RM	A	WALL	Drywall	Intact	White	0.36	Negative
684	O105	1	LIVING RM	B	WALL	Drywall	Intact	White	0.31	Negative
685	O105	1	LIVING RM	C	WALL	Drywall	Intact	White	0.38	Negative
686	O105	1	LIVING RM	D	WALL	Drywall	Intact	White	0.46	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
687	O105	1	LIVING RM	D	CEILING	Drywall	Intact	White	0	Negative
688	O105	1	LIVING RM	D	BASEBOARD	Wood	Intact	White	0	Negative
689	O105	1	LIVING RM	C	DOOR CASING	Wood	Intact	White	0	Negative
690	O105	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
691	O105	1	KITCHEN	B	WALL	Drywall	Intact	White	0.47	Negative
692	O105	1	KITCHEN	C	WALL	Drywall	Intact	White	0.02	Negative
693	O105	1	KITCHEN	D	WALL	Drywall	Intact	White	0.44	Negative
694	O105	1	KITCHEN	A	CLOSET	Drywall	Intact	White	0	Negative
695			Shutter Cal 1						0	Undetermined
696			Calibrate						1.11	Positive
697			Calibrate						1.1	Positive
698			Calibrate						1.16	Positive
699	E105		KITCHEN	C	WINDOW SILL	Wood	Intact	White	0	Negative
700	E105		KITCHEN	C	CEILING	Drywall	Intact	White	0	Negative
701	E105		HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
702	E105		HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
703	E105		HALLWAY	D	CLOSET	Drywall	Intact	White	0.31	Negative
704	E105		HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
705	E105		HALLWAY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
706	E105		BEDROOM-1	A	WALL	Drywall	Intact	White	0.53	Negative
707	E105		BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
708	E105		BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
709	E105		BEDROOM-1	D	WALL	Drywall	Intact	White	0.01	Negative
710	E105		BEDROOM-1	D	CEILING	Drywall	Intact	White	0.26	Negative
711	E105		BEDROOM-1	D	BASEBOARD	Wood	Intact	White	0	Negative
712	E105		BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative
713	E105		BEDROOM-1	C	CLOSET	Drywall	Intact	White	0.31	Negative
714	E105		BEDROOM-1	C	CLOSET DOOR	Drywall	Intact	White	0	Negative
715	E105		BEDROOM-1	C	DOOR	Wood	Intact	White	0	Negative
716	E105		BEDROOM-1	C	DOOR CASING	Wood	Intact	White	0	Negative
717	E105		BEDROOM-1	A	WALL	Drywall	Intact	White	0.26	Negative
718	E105		BEDROOM-1	B	WALL	Drywall	Intact	White	0.33	Negative
719	E105		BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
720	E105		BEDROOM-1	D	WALL	Drywall	Intact	White	0.02	Negative
721	E105		BEDROOM-1	D	WALL	Drywall	Intact	White	0.45	Negative
722	E105		BEDROOM-1	D	CEILING	Drywall	Intact	White	0.23	Negative
723	E105		BEDROOM-1	C	CABINET	Wood	Intact	White	0	Negative
724	E105		BEDROOM-1	D	DOOR	Wood	Intact	White	0.09	Negative
725	E105		BEDROOM-1	D	DOOR CASING	Wood	Intact	White	0	Negative
726	E105		BEDROOM-2	A	WALL	Drywall	Intact	White	0	Negative
727	E105		BEDROOM-2	B	WALL	Drywall	Intact	White	0.23	Negative
728	E105		BEDROOM-2	C	WALL	Drywall	Intact	White	0.25	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
729	E105		BEDROOM-2	D	WALL	Drywall	Intact	White	0.2	Negative
730	E105		BEDROOM-2	D	CEILING	Drywall	Intact	White	0	Negative
731	E105		BEDROOM-2	A	WINDOW SILL	Wood	Intact	White	0.01	Negative
732	E105		BEDROOM-2	C	CLOSET	Drywall	Intact	White	0	Negative
733	E105		BEDROOM-2	C	CLOSET SHELF	Drywall	Intact	White	0	Negative
734	E105		BEDROOM-2	C	CLOSET DOOR	Drywall	Intact	White	0.18	Negative
735	E105		BEDROOM-2	C	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
736	E105		BEDROOM-2	C	DOOR	Wood	Intact	White	0	Negative
737	E105		BEDROOM-2	C	DOOR CASING	Wood	Intact	White	0	Negative
738	U4	1	LIVING RM	A	WALL	Drywall	Intact	White	0.42	Negative
739	U4	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
740	U4	1	LIVING RM	C	WALL	Drywall	Intact	White	0.43	Negative
741	U4	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
742	U4	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.19	Negative
743	U4	1	KITCHEN	A	WALL	Drywall	Intact	Yellow	0	Negative
744	U4	1	KITCHEN	B	WALL	Drywall	Intact	Yellow	0.49	Negative
745	U4	1	KITCHEN	C	WALL	Drywall	Intact	Yellow	0	Negative
746	U4	1	KITCHEN	D	WALL	Drywall	Intact	Yellow	0.34	Negative
747	U4	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.5	Negative
748	U4	1	KITCHEN	A	CLOSET	Drywall	Intact	White	0	Negative
749	U4	1	KITCHEN	A	CLOSET SHELF	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
750	U4	1	HALLWAY	A	WALL	Drywall	Intact	White	0.32	Negative
751	U4	1	HALLWAY	B	WALL	Drywall	Intact	White	0.21	Negative
752	U4	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
753	U4	1	HALLWAY	C	CLOSET	Drywall	Intact	White	0.48	Negative
754	U4	1	HALLWAY	B	CLOSET SHELF	Wood	Intact	White	0	Negative
755	U4	1	HALLWAY	B	CEILING	Wood	Intact	White	0.31	Negative
756	U4	1	HALLWAY	A	WALL	Metal	Intact	White	0	Negative
757	U4	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.45	Negative
758	U4	1	BEDROOM-1	0	WALL	Drywall	Intact	White	0.02	Negative
759	U4	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
760	U4	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0.31	Negative
761	U4	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
762	U4	1	BEDROOM-1	0	CLOSET	Drywall	Intact	White	0	Negative
763	U4	1	BEDROOM-1	0	CLOSET SHELF	Drywall	Intact	White	0	Negative
764	W9	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative
765	W9	1	ENTRY	B	WALL	Drywall	Intact	White	0.08	Negative
766	W9	1	ENTRY	C	WALL	Drywall	Intact	White	0	Negative
767	W9	1	ENTRY	D	WALL	Drywall	Intact	White	0	Negative
768	W9	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
769	W9	1	ENTRY	D	CEILING	Drywall	Intact	White	0.07	Negative
770	W9	1	ENTRY	A	DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
771	W9	1	ENTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
772	W9	1	ENTRY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
773	W9	1	ENTRY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
774	W9	1	ENTRY	D	BASEBOARD	Wood	Intact	White	0	Negative
775	W9	1	ENTRY	D	CLOSET	Drywall	Intact	White	0.16	Negative
776	W9	1	LIVING RM	A	WALL	Drywall	Intact	White	0.02	Negative
777	W9	1	LIVING RM	B	WALL	Drywall	Intact	White	0.01	Negative
778	W9	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
779	W9	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
780	W9	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.35	Negative
781	W9	1	LIVING RM	D	BASEBOARD	Wood	Intact	White	0	Negative
782	W9	1	LIVING RM	C	Baseboard	Metal	Intact	White	0.01	Negative
783	W9	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
784	W9	1	KITCHEN	B	WALL	Drywall	Intact	White	0.03	Negative
785	W9	1	KITCHEN	C	WALL	Drywall	Intact	White	0.01	Negative
786	W9	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
787	W9	1	KITCHEN	D	CEILING	Drywall	Intact	White	0	Negative
788	W9	1	KITCHEN	B	CLOSET	Drywall	Intact	White	0.01	Negative
789	W9	1	KITCHEN	B	CLOSET DOOR	Wood	Intact	White	0	Negative
790	W9	1	KITCHEN	B	CABINET-UPR	Wood	Intact	White	0	Negative
791	W9	1	KITCHEN	D	CABINET-LWR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
792	W9	1	KITCHEN	C	WINDOW SILL	Wood	Intact	White	0	Negative
793	W9	1	BEDROOM	A	WALL	Drywall	Intact	White	0.22	Negative
794	W9	1	BEDROOM	B	WALL	Drywall	Intact	White	0.1	Negative
795	W9	1	BEDROOM	C	WALL	Drywall	Intact	White	0.52	Negative
796	W9	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
797	W9	1	BEDROOM	D	CEILING	Drywall	Intact	White	0.28	Negative
798	W9	1	BEDROOM	D	DOOR	Wood	Intact	White	0	Negative
799	W9	1	BEDROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
800	W9	1	BEDROOM	B	CLOSET	Drywall	Intact	White	0.01	Negative
801	W9	1	BEDROOM	B	DOOR	Drywall	Intact	White	0	Negative
802	W9	1	BEDROOM	B	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
803	W9	1	BEDROOM	B	BASEBOARD	Wood	Intact	White	0	Negative
804	W9	1	BEDROOM	A	WINDOW SILL	Wood	Intact	White	0	Negative
805	W9	1	BATHROOM	A	WALL	Drywall	Intact	White	0.01	Negative
806	W9	1	BATHROOM	B	WALL	Drywall	Intact	White	0	Negative
807	W9	1	BATHROOM	C	WALL	Drywall	Intact	White	0.21	Negative
808	W9	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
809	W9	1	BATHROOM	D	CEILING	Drywall	Intact	White	0.02	Negative
810	W9	1	BATHROOM	D	CABINET	Wood	Intact	White	0	Negative
811	W9	1	BATHROOM	D	DOOR	Wood	Intact	White	0	Negative
812	W9	1	BATHROOM	D	DOOR CASING	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
813	P104	1	LIVING RM	A	WALL	Drywall	Intact	White	0.49	Negative
814	P104	1	LIVING RM	B	WALL	Drywall	Intact	White	0.14	Negative
815	P104	1	LIVING RM	C	WALL	Drywall	Intact	White	0.01	Negative
816	P104	1	LIVING RM	D	WALL	Drywall	Intact	White	0.27	Negative
817	P104	1	LIVING RM	D	CEILING	Drywall	Intact	White	0	Negative
818	P104	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.01	Negative
819	P104	1	LIVING RM	C	BASEBOARD	Wood	Intact	White	0	Negative
820	P104	1	LIVING RM	C	WALL	Metal	Intact	White	0.06	Negative
821	P104	1	LIVING RM	B	DOOR	Wood	Intact	White	0	Negative
822	P104	1	LIVING RM	B	DOOR CASING	Wood	Intact	White	0	Negative
823	P104	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
824	P104	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
825	P104	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
826	P104	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
827	P104	1	KITCHEN	D	CEILING	Drywall	Intact	White	0	Negative
828	P104	1	KITCHEN	D	CABINET-LWR	Wood	Intact	White	0	Negative
829	P104	1	KITCHEN	A	CABINET-UPR	Wood	Intact	White	0	Negative
830	P104	1	KITCHEN	B	CLOSET DOOR	Wood	Intact	White	0	Negative
831	P104	1	KITCHEN	B	CLOSET SHELF	Wood	Intact	White	0.01	Negative
832	P104	1	KITCHEN	B	CLOSET	Drywall	Intact	White	0.26	Negative
833	P104	1	HALLWAY	A	WALL	Drywall	Intact	White	0.43	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
834	P104	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
835	P104	1	HALLWAY	C	WALL	Drywall	Intact	White	0.71	Negative
836	P104	1	HALLWAY	C	WALL	Drywall	Intact	White	0.31	Negative
837	P104	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
838	P104	1	HALLWAY	D	CEILING	Drywall	Intact	White	0	Negative
839	P104	1	HALLWAY	D	BASEBOARD	Wood	Intact	White	0	Negative
840	P104	1	HALLWAY	D	CLOSET DOOR	Wood	Intact	White	0.01	Negative
841	P104	1	HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
842	P104	1	HALLWAY	D	CLOSET	Drywall	Intact	White	0	Negative
843	P104	1	BATHROOM	A	WALL	Drywall	Intact	White	0.22	Negative
844	P104	1	BATHROOM	B	WALL	Drywall	Intact	White	0.31	Negative
845	P104	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
846	P104	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
847	P104	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
848	P104	1	BATHROOM	D	CEILING	Drywall	Intact	White	0.49	Negative
849	P104	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
850	P104	1	BATHROOM	B	DOOR	Wood	Intact	White	-0.09	Negative
851	P104	1	BATHROOM	B	DOOR CASING	Wood	Intact	White	0.01	Negative
852	P104	1	BATHROOM-1	A	WALL	Drywall	Intact	White	0	Negative
853	P104	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative
854	P104	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0.55	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
855	P104	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0.49	Negative
856	P104	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.01	Negative
857	P104	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0.39	Negative
858	P104	1	BEDROOM-1	C	BASEBOARD	Wood	Intact	White	0	Negative
859	P104	1	BEDROOM-1	C	WINDOW SILL	Wood	Intact	White	0	Negative
860	P104	1	BEDROOM-1	D	CLOSET DOOR	Wood	Intact	White	0	Negative
861	P104	1	BEDROOM-1	D	CLOSET SHELF	Wood	Intact	White	0	Negative
862	P104	1	BEDROOM-1	D	CLOSET	Drywall	Intact	White	0.32	Negative
863	P104	1	BEDROOM-1	A	DOOR	Drywall	Intact	White	0	Negative
864	P104	1	BEDROOM-1	A	DOOR CASING	Wood	Intact	White	0	Negative
865	P104	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0.1	Negative
866	P104	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0	Negative
867	P104	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0	Negative
868	P104	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0	Negative
869	P104	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0	Negative
870	P104	1	BEDROOM-2	D	CLOSET	Drywall	Intact	White	0.41	Negative
871	P104	1	BEDROOM-2	D	BASEBOARD	Wood	Intact	White	0	Negative
872	P104	1	BEDROOM-2	D	CLOSET DOOR	Wood	Intact	White	0	Negative
873	P104	1	BEDROOM-2	D	CLOSET SHELF	Wood	Intact	White	0	Negative
874	P104	1	BEDROOM-2	C	WINDOW SILL	Wood	Intact	White	0	Negative
875	P104	1	BEDROOM-2	C	DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
876	P104	1	BEDROOM-2	C	DOOR CASING	Wood	Intact	White	0	Negative
877			Calibrate						1.01	Positive
878			Calibrate						1.23	Positive
879			Calibrate						1	Positive

End of Sample Log

Sample Log Attachment

Inspection date: Thursday, July 22, 2004

Inspector: Lance J. Kiblinger-WA
License no.: WA-0079

Client: KCHA-Woodside East Apartments ,
600 Andover Park West
Seattle, WA 98188

Site address: 16240 Northeast 14th Street
Bellevue, WA 98008

Report No:
KCH11904

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
001			Shutter Cal 1						0	Negative
002			Calibrate						1.01	Positive
003			Calibrate						1	Positive
004			Calibrate						1.16	Positive
005	P102	1	ENTRY	A	WALL	Drywall	Intact	White	0.01	Negative
006	P102	1	ENTRY	0	WALL	Drywall	Intact	White	0	Negative
007	P102	1	ENTRY	C	WALL	Drywall	Intact	White	0.02	Negative
008	P102	1	ENTRY	D	WALL	Drywall	Intact	White	0.03	Negative
009	P102	1	ENTRY	D	DOOR	Wood	Intact	White	0.07	Negative
010	P102	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
011	P102	1	ENTRY	D	DOOR	Wood	Intact	White	0.15	Negative
012	P102	1	ENTRY	D	DOOR CASING	Wood	Intact	White	0.01	Negative
013	P102	1	ENTRY	A	CLOSET DOOR	Wood	Intact	White	0	Negative
014	P102	1	ENTRY	0	CLOSET DOOR CASING	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
015	P102	1	ENTRY	D	CLOSET	Drywall	Intact	White	0	Negative
016	P102	1	ENTRY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
017	P102	1	ENTRY	B	CLOSET DOOR	Wood	Intact	White	0	Negative
018	P102	1	ENTRY	B	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
019	P102	1	ENTRY	B	CLOSET	Drywall	Intact	White	0	Negative
020	P102	1	ENTRY	B	CLOSET SHELF	Wood	Intact	White	0.01	Negative
021	P102	1	HALLWAY	A	WALL	Drywall	Intact	White	0	Negative
022	P102	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
023	P102	1	HALLWAY	D	WALL DOOR	Wood	Intact	White	0	Negative
024	P102	1	HALLWAY	D	CLOSET	Drywall	Intact	White	0	Negative
025	P102	1	HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
026	P102	1	HALLWAY	D	CEILING	Drywall	Intact	White	0.01	Negative
027	P102	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
028	P102	1	LIVING RM	B	WALL	Drywall	Intact	White	0.01	Negative
029	P102	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
030	P102	1	LIVING RM	0	WALL	Drywall	Intact	White	0.02	Negative
031	P102	1	LIVING RM	0	Ceiling	Drywall	Intact	White	0	Negative
032	P102	1	LIVING RM	A	BASEBOARD	Wood	Intact	White	0.01	Negative
033	P102	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
034	P102	1	LIVING RM	B	WALL	Drywall	Intact	White	0.08	Negative
035	P102	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
036	P102	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
037	P102	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
038	P102	1	KITCHEN	D	CLOSET DOOR CASING	Wood	Intact	White	0.01	Negative
039	P102	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
040	P102	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
041	P102	1	KITCHEN	B	WINDOW SILL	Wood	Intact	White	0	Negative
042	P102	1	KITCHEN	B	WALL	Metal	Intact	White	0	Negative
043	P102	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0	Negative
044	P102	1	KITCHEN	A	CABINET-LWR	Wood	Intact	White	0	Negative
045	P102	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
046	P102	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
047	P102	1	BEDROOM	C	WALL	Drywall	Intact	White	0	Negative
048	P102	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
049	P102	1	BEDROOM	D	CEILING	Drywall	Intact	White	0	Negative
050	P102	1	BEDROOM	D	WINDOW SILL	Wood	Intact	White	0	Negative
051	P102	1	BEDROOM	D	BASEBOARD	Wood	Intact	White	0	Negative
052	P102	1	BEDROOM	D	WALL	Metal	Intact	White	0.01	Negative
053	P102	1	BEDROOM	B	CLOSET DOOR	Wood	Intact	White	0	Negative
054	P102	1	BEDROOM	B	CLOSET	Drywall	Intact	White	0	Negative
055	P102	1	BEDROOM	B	CLOSET SHELF	Wood	Intact	White	0	Negative
056	P102	1	BEDROOM	B	DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
057	P102	1	BEDROOM	B	DOOR CASING	Wood	Intact	White	0	Negative
058	P102	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0	Negative
059	P102	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0	Negative
060	P102	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0.01	Negative
061	P102	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0	Negative
062	P102	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0	Negative
063	P102	1	BEDROOM-2	D	BASEBOARD	Wood	Intact	White	0	Negative
064	P102	1	BEDROOM-2	D	WINDOW SILL	Wood	Intact	White	0	Negative
065	P102	1	BEDROOM-2	C	CLOSET DOOR	Wood	Intact	White	0	Negative
066	P102	1	BEDROOM-2	C	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
067	P102	1	BEDROOM-2	C	CLOSET	Drywall	Intact	White	0.01	Negative
068	P102	1	BEDROOM-2	C	CLOSET SHELF	Wood	Intact	White	0	Negative
069	P102	1	BATHROOM-1	A	WALL	Drywall	Intact	White	0	Negative
070	P102	1	BATHROOM-1	B	WALL	Drywall	Intact	White	0	Negative
071	P102	1	BATHROOM-1	B	WALL	Drywall	Intact	White	0	Negative
072	P102	1	BATHROOM-1	D	WALL	Drywall	Intact	White	0	Negative
073	P102	1	BATHROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
074	P102	1	BATHROOM-1	A	CABINET	Wood	Intact	White	0	Negative
075	P102	1	BATHROOM-1	D	DOOR	Wood	Intact	White	0	Negative
076	P102	1	BATHROOM-1	D	DOOR CASING	Wood	Intact	White	0	Negative
077	S103	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
078	S103	1	ENTRY	B	WALL	Drywall	Intact	White	0	Negative
079	S103	1	ENTRY	C	WALL	Drywall	Intact	White	0	Negative
080	S103	1	ENTRY	D	WALL	Drywall	Intact	White	0	Negative
081	S103	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
082	S103	1	ENTRY	A	DOOR	Wood	Intact	White	0.01	Negative
083	S103	1	ENTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
084	S103	1	ENTRY	A	CLOSET DOOR	Wood	Intact	White	0	Negative
085	S103	1	ENTRY	A	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
086	S103	1	ENTRY	A	CLOSET SHELF	Wood	Intact	White	0	Negative
087	S103	1	ENTRY	A	CLOSET	Drywall	Intact	White	0	Negative
088	S103	1	ENTRY	B	CLOSET DOOR	Drywall	Intact	White	0	Negative
089	S103	1	ENTRY	0	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
090	S103	1	ENTRY	B	CLOSET SHELF	Wood	Intact	White	0	Negative
091	S103	1	ENTRY	C	CLOSET	Drywall	Intact	White	0	Negative
092	S103	1	ENTRY	D	CLOSET	Drywall	Intact	White	0.05	Negative
093	S103	1	ENTRY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
094	S103	1	ENTRY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
095	S103	1	ENTRY	D	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
096	S103	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
097	S103	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
098	S103	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
099	S103	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
100	S103	1	LIVING RM	D	WALL	Drywall	Intact	White	0.23	Negative
101	S103	1	LIVING RM	A	WINDOW SILL	Wood	Intact	White	0	Negative
102	S103	1	LIVING RM	A	BASEBOARD	Wood	Intact	White	0	Negative
103	S103	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
104	S103	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
105	S103	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
106	S103	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
107	S103	1	KITCHEN	B	WINDOW SILL	Wood	Intact	White	0	Negative
108	S103	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0.01	Negative
109	S103	1	KITCHEN	A	CABINET-LWR	Wood	Intact	White	0	Negative
110	S103	1	KITCHEN	A	CLOSET DOOR	Wood	Intact	White	0	Negative
111	S103	1	KITCHEN	D	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
112	S103	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
113	S103	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
114	S103	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
115	S103	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
116	S103	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
117	S103	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
118	S103	1	BEDROOM	A	BASEBOARD	Wood	Intact	White	0	Negative
119	S103	1	BEDROOM	A	WINDOW SILL	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
120	S103	1	BEDROOM	C	CLOSET DOOR	Wood	Intact	White	0	Negative
121	S103	1	BEDROOM	C	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
122	S103	1	BEDROOM	C	CLOSET SHELF	Wood	Intact	White	0	Negative
123	S103	1	BEDROOM	C	CLOSET	Drywall	Intact	White	0	Negative
124	S103	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
125	S103	1	BATHROOM	B	WALL	Drywall	Intact	White	0.01	Negative
126	S103	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
127	S103	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
128	S103	1	BATHROOM	D	CEILING	Drywall	Intact	White	0	Negative
129	S103	1	BATHROOM	B	CABINET	Drywall	Intact	White	0	Negative
130	S103	1	BATHROOM	A	DOOR	Wood	Intact	White	0	Negative
131	S103	1	BATHROOM	A	DOOR CASING	Wood	Intact	White	0.01	Negative
132	S105	1	ENTRY	A	WALL	Wood	Intact	White	0.05	Negative
133	S105	1	ENTRY	B	WALL	Wood	Intact	White	0.09	Negative
134	S105	1	ENTRY	C	WALL	Wood	Intact	White	0	Negative
135	S105	1	ENTRY	D	WALL	Wood	Intact	White	0	Negative
136	S105	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
137	S105	1	ENTRY	D	BASEBOARD	Wood	Intact	White	0.01	Negative
138	S105	1	ENTRY	B	CLOSET DOOR	Wood	Intact	White	0	Negative
139	S105	1	ENTRY	B	CLOSET DOOR CASING	Wood	Intact	White	0.02	Negative
140	S105	1	ENTRY	B	CLOSET SHELF	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
141	S105	1	ENTRY	B	CLOSET	Drywall	Intact	White	0	Negative
142	S105	1	ENTRY	C	CLOSET	Drywall	Intact	White	0	Negative
143	S105	1	ENTRY	C	CLOSET DOOR	Drywall	Intact	White	0	Negative
144	S105	1	ENTRY	C	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
145	S105	1	ENTRY	D	DOOR	Wood	Intact	White	0	Negative
146	S105	1	ENTRY	D	DOOR CASING	Wood	Intact	White	0	Negative
147	S105	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
148	S105	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
149	S105	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
150	S105	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
151	S105	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
152	S105	1	LIVING RM	B	BASEBOARD	Wood	Intact	White	0	Negative
153	S105	1	LIVING RM	B	DOOR CASING	Wood	Intact	White	0	Negative
154	S105	1	KITCHEN	A	WALL	Drywall	Intact	White	0.19	Negative
155	S105	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
156	S105	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
157	S105	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
158	S105	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.2	Negative
159	S105	1	KITCHEN	B	WINDOW SILL	Drywall	Intact	White	0	Negative
160	S105	1	KITCHEN	A	CABINET-UPR	Drywall	Intact	White	0	Negative
161	S105	1	KITCHEN	C	CABINET-LWR	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
162	S105	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0.01	Negative
163	S105	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
164	S105	1	KITCHEN	D	CLOSET DOOR	Wood	Intact	White	0	Negative
165	S105	1	KITCHEN	D	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
166	S105	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
167	S105	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
168	S105	1	BEDROOM	C	WALL	Drywall	Intact	White	0	Negative
169	S105	1	BEDROOM	D	WALL	Drywall	Intact	White	0.09	Negative
170	S105	1	BEDROOM	D	CEILING	Drywall	Intact	White	0	Negative
171	S105	1	BEDROOM	B	CLOSET	Drywall	Intact	White	0	Negative
172	S105	1	BEDROOM	0	CLOSET SHELF	Drywall	Intact	White	0	Negative
173	S105	1	BEDROOM	0	CLOSET DOOR	Drywall	Intact	White	0	Negative
174	S105	1	BEDROOM	B	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
175	S105	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
176	S105	1	BATHROOM	B	WALL	Drywall	Intact	White	0	Negative
177	S105	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
178	S105	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
179	S105	1	BATHROOM	D	CEILING	Drywall	Intact	White	0.02	Negative
180	S105	1	BATHROOM	C	CABINET	Wood	Intact	White	0	Negative
181	S105	1	BATHROOM	B	DOOR	Wood	Intact	White	0	Negative
182	S105	1	BATHROOM	B	DOOR CASING	Wood	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
183	C11	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
184	C11	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
185	C11	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
186	C11	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
187	C11	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.01	Negative
188	C11	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.07	Negative
189	C11	1	LIVING RM	B	BASEBOARD	Drywall	Intact	White	0.01	Negative
190	C11	1	LIVING RM	B	BASEBOARD	Wood	Intact	White	0.01	Negative
191	C11	1	LIVING RM	B	DOOR CASING	Wood	Intact	White	0	Negative
192	C11	1	KITCHEN	A	WALL	Drywall	Intact	White	0.03	Negative
193	C11	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
194	C11	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
195	C11	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
196	C11	1	KITCHEN	D	CEILING	Drywall	Intact	White	0	Negative
197	C11	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
198	C11	1	KITCHEN	B	CLOSET SHELF	Drywall	Intact	White	0	Negative
199	C11	1	KITCHEN	B	CLOSET DOOR	Wood	Intact	White	0	Negative
200	C11	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0.01	Negative
201	C11	1	KITCHEN	C	CABINET-LWR	Wood	Intact	White	0.01	Negative
202	C11	1	HALLWAY	A	WALL	Drywall	Intact	White	0.04	Negative
203	C11	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
204	C11	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
205	C11	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
206	C11	1	HALLWAY	D	CEILING	Drywall	Intact	White	0	Negative
207	C11	1	HALLWAY	D	CLOSET	Drywall	Intact	White	0	Negative
208	C11	1	HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
209	C11	1	HALLWAY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
210	C11	1	HALLWAY	D	CLOSET CASING	Wood	Intact	White	0	Negative
211	C11	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0	Negative
212	C11	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative
213	C11	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
214	C11	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
215	C11	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
216	C11	1	BEDROOM-1	A	BASEBOARD	Wood	Intact	White	0.01	Negative
217	C11	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0.05	Negative
218	C11	1	BEDROOM-1	D	CLOSET DOOR	Wood	Intact	White	0	Negative
219	C11	1	BEDROOM-1	D	CLOSET	Drywall	Intact	White	0	Negative
220	C11	1	BEDROOM-1	D	CLOSET SHELF	Drywall	Intact	White	0	Negative
221	C11	1	BEDROOM-1	C	DOOR	Wood	Intact	White	0	Negative
222	C11	1	BEDROOM-1	C	DOOR CASING	Wood	Intact	White	0	Negative
223	C11	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0	Negative
224	C11	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
225	C11	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0	Negative
226	C11	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0	Negative
227	C11	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0.02	Negative
228	C11	1	BEDROOM-2	C	BASEBOARD	Wood	Intact	White	0	Negative
229	C11	1	BEDROOM-2	C	WINDOW SILL	Wood	Intact	White	0	Negative
230	C11	1	BEDROOM-2	D	CLOSET DOOR	Wood	Intact	White	0	Negative
231	C11	1	BEDROOM-2	0	CLOSET	Drywall	Intact	White	0	Negative
232	C11	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
233	C11	1	BATHROOM	B	WALL	Drywall	Intact	White	0	Negative
234	C11	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
235	C11	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
236	C11	1	BATHROOM	D	CEILING	Drywall	Intact	White	0	Negative
237	C11	1	BATHROOM	C	CABINET	Drywall	Intact	White	0.01	Negative
238	C11	1	BATHROOM	B	DOOR	Wood	Intact	White	0	Negative
239	C11	1	BATHROOM	B	DOOR CASING	Wood	Intact	White	0.01	Negative
240			Shutter Cal 1						0	Negative
241			Calibrate						1.19	Positive
242			Calibrate						1.29	Positive
243			Calibrate						1.11	Positive
244	B8	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
245	B8	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
246	B8	1	LIVING RM	C	WALL	Drywall	Intact	White	0.01	Negative
247	B8	1	LIVING RM	C	WALL	Drywall	Intact	White	0.02	Negative
248	B8	1	LIVING RM	D	WALL	Drywall	Intact	White	0.01	Negative
249	B8	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.4	Negative
250	B8	1	LIVING RM	D	BASEBOARD	Drywall	Intact	White	0	Negative
251	B8	1	LIVING RM	A	BASEBOARD	Drywall	Intact	White	0.03	Negative
252	B8	1	LIVING RM	A	BASEBOARD	Drywall	Intact	White	0.1	Negative
253	B8	1	LIVING RM	0	BASEBOARD	Drywall	Intact	White	0	Negative
254	B8	1	LIVING RM	D	BASEBOARD	Drywall	Intact	White	0	Negative
255	B8	1	LIVING RM	D	CEILING	Drywall	Intact	White	0	Negative
256	B8	1	LIVING RM	B	CLOSET DOOR	Drywall	Intact	White	0	Negative
257	B8	1	LIVING RM	B	CLOSET	Drywall	Intact	White	0.01	Negative
258	B8	1	LIVING RM	B	CLOSET SHELF	Wood	Intact	White	0	Negative
259	B8	1	LIVING RM	A	CABINET-UPR	Wood	Intact	White	0.01	Negative
260	B8	1	LIVING RM	D	CABINET-LWR	Wood	Intact	White	0	Negative
261	B8	1	HALLWAY	A	WALL	Drywall	Intact	White	0	Negative
262	B8	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
263	B8	1	HALLWAY	C	WALL	Drywall	Intact	White	0	Negative
264	B8	1	HALLWAY	D	CLOSET	Drywall	Intact	White	0	Negative
265	B8	1	HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0.04	Negative
266	B8	1	HALLWAY	D	CLOSET DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
267	B8	1	HALLWAY	D	CLOSET DOOR CASING CA	Wood	Intact	White	0	Negative
268	B8	1	BEDROOM	A	WALL	Drywall	Intact	White	0.13	Negative
269	B8	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
270	B8	1	BEDROOM	C	WALL	Drywall	Intact	White	0.01	Negative
271	B8	1	BEDROOM	D	WALL	Drywall	Intact	White	0.01	Negative
272	B8	1	BEDROOM	D	CEILING	Drywall	Intact	White	0.04	Negative
273	B8	1	BEDROOM	C	WINDOW SILL	Drywall	Intact	White	0.02	Negative
274	B8	1	BEDROOM	C	BASEBOARD	Wood	Intact	White	0.03	Negative
275	B8	1	BEDROOM	D	CLOSET	Wood	Intact	White	0.01	Negative
276	B8	1	BEDROOM	D	CLOSET DOOR	Wood	Intact	White	0.01	Negative
277	B8	1	BEDROOM	C	DOOR	Wood	Intact	White	0	Negative
278	B8	1	BEDROOM	C	DOOR CASING	Wood	Intact	White	0	Negative
279	B8	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0.03	Negative
280	B8	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0	Negative
281	B8	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0	Negative
282	B8	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0.01	Negative
283	B8	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0.02	Negative
284	B8	1	BEDROOM-2	C	WINDOW SILL	Wood	Intact	White	0.01	Negative
285	B8	1	BEDROOM-2	C	CLOSET SHELF	Wood	Intact	White	0	Negative
286	B8	1	BEDROOM-2	D	CLOSET DOOR	Wood	Intact	White	0	Negative
287	B8	1	BEDROOM-2	D	CLOSET	Drywall	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
288	B8	1	BEDROOM-2	A	DOOR	Wood	Intact	White	0	Negative
289	B8	1	BEDROOM-2	A	DOOR CASING	Wood	Intact	White	0.01	Negative
290	B8	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
291	B8	1	BATHROOM	B	WALL	Drywall	Intact	White	0.15	Negative
292	B8	1	BATHROOM	C	WALL	Drywall	Intact	White	0.01	Negative
293	B8	1	BATHROOM	D	WALL	Drywall	Intact	White	0.05	Negative
294	B8	1	BATHROOM	D	CEILING	Drywall	Intact	White	0	Negative
295	B8	1	BATHROOM	C	CABINET	Wood	Intact	White	0.01	Negative
296	B8	1	BATHROOM	D	DOOR	Wood	Intact	White	0.04	Negative
297	B8	1	BATHROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
298			Shutter Cal 1						0	Negative
299	B15	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
300	B15	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
301	B15	1	LIVING RM	C	WALL	Drywall	Intact	White	0.03	Negative
302	B15	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
303	B15	1	LIVING RM	D	CEILING	Drywall	Intact	White	0.02	Negative
304	B15	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
305	B15	1	KITCHEN	B	WALL	Drywall	Intact	White	0.04	Negative
306	B15	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
307	B15	1	KITCHEN	D	WALL	Drywall	Intact	White	0.01	Negative
308	B15	1	KITCHEN	D	CEILING	Drywall	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
309	B15	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0.01	Negative
310	B15	1	KITCHEN	D	CLOSET DOOR	Wood	Intact	White	0	Negative
311	B15	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0.01	Negative
312	B15	1	HALLWAY	A	WALL	Drywall	Intact	White	0.03	Negative
313	B15	1	HALLWAY	B	WALL	Drywall	Intact	White	0	Negative
314	B15	1	HALLWAY	C	WALL	Drywall	Intact	White	0.18	Negative
315	B15	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
316	B15	1	HALLWAY	D	CEILING	Drywall	Intact	White	0.02	Negative
317	B15	1	HALLWAY	B	CLOSET	Drywall	Intact	White	0	Negative
318	B15	1	HALLWAY	B	CLOSET SHELF	Wood	Intact	White	0	Negative
319	B15	1	HALLWAY	B	CLOSET DOOR	Wood	Intact	White	0	Negative
320	B15	1	HALLWAY	B	CLOSET DOOR CASING	Wood	Intact	White	0.01	Negative
321	B15	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0.09	Negative
322	B15	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative
323	B15	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
324	B15	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0.05	Negative
325	B15	1	BEDROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
326	B15	1	BEDROOM-1	B	CLOSET	Drywall	Intact	White	0	Negative
327	B15	1	BEDROOM-1	B	CLOSET DOOR	Wood	Intact	White	0	Negative
328	B15	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0	Negative
329	B15	1	BEDROOM-2	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
330	B15	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0.02	Negative
331	B15	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0	Negative
332	B15	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0.1	Negative
333	B15	1	BEDROOM-2	C	WINDOW SILL	Wood	Intact	White	0	Negative
334	B15	1	BEDROOM-2	B	CLOSET	Drywall	Intact	White	0	Negative
335	B15	1	BEDROOM-2	B	CLOSET DOOR	Wood	Intact	White	0	Negative
336	B15	1	BEDROOM-2	B	CLOSET SHELF	Wood	Intact	White	0	Negative
337	B15	1	BEDROOM-2	A	DOOR	Wood	Intact	White	0	Negative
338	B15	1	BEDROOM-2	A	DOOR CASING	Wood	Intact	White	0	Negative
339	B15	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
340	B15	1	BATHROOM	B	WALL	Drywall	Intact	White	0.01	Negative
341	B15	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
342	B15	1	BATHROOM	D	WALL	Drywall	Intact	White	0.01	Negative
343	B15	1	BATHROOM	D	DOOR	Wood	Intact	White	0	Negative
344	B15	1	BATHROOM	D	DOOR CASING	Wood	Intact	White	0	Negative
345			Shutter Cal 1						0	Negative
346			Calibrate						1.16	Positive
347			Calibrate						1.15	Positive
348			Calibrate						1.06	Positive
349	G103	1	ENTRY	A	WALL	Drywall	Intact	White	0.01	Negative
350	G103	1	ENTRY	B	WALL	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
351	G103	1	ENTRY	C	WALL	Drywall	Intact	White	0.03	Negative
352	G103	1	ENTRY	D	WALL	Drywall	Intact	White	0	Negative
353	G103	1	ENTRY	D	Ceiling	Drywall	Intact	White	0	Negative
354	G103	1	ENTRY	B	Closet 3	Drywall	Intact	White	0.01	Negative
355	G103	1	ENTRY	B	Closet 3	Drywall	Intact	White	0	Negative
356	G103	1	ENTRY	B	DOOR CASING	Drywall	Intact	White	0.02	Negative
357	G103	1	ENTRY	B	DOOR	Drywall	Intact	White	0.09	Negative
358	G103	1	ENTRY	C	Closet 3	Drywall	Intact	White	0.01	Negative
359	G103	1	ENTRY	C	Closet 3	Drywall	Intact	White	0	Negative
360	G103	1	ENTRY	C	Closet 3	Drywall	Intact	White	0	Negative
361	G103	1	ENTRY	B	Closet 0	Drywall	Intact	White	0	Negative
362	G103	1	ENTRY	D	Closet 0	Wood	Intact	White	0	Negative
363	G103	1	ENTRY	D	Closet 0	Wood	Intact	White	0	Negative
364	G103	1	ENTRY	D	Closet 0	Wood	Intact	White	0	Negative
365	G103	1	ENTRY	A	Wall 0	Drywall	Intact	White	0	Negative
366	G103	1	ENTRY	B	Wall 0	Drywall	Intact	White	0	Negative
367	G103	1	ENTRY	C	Wall 0	Drywall	Intact	White	0	Negative
368	G103	1	ENTRY	D	Wall 0	Drywall	Intact	White	0	Negative
369	G103	1	ENTRY	D	Ceiling 0	Drywall	Intact	White	0	Negative
370	G103	1	LIVING RM	D	WINDOW	Wood	Intact	White	0	Negative
371	G103	1	KITCHEN	A	WINDOW	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
372	G103	1	KITCHEN	B	WINDOW	Drywall	Intact	White	0	Negative
373	G103	1	KITCHEN	C	WINDOW	Drywall	Intact	White	0	Negative
374	G103	1	KITCHEN	D	WINDOW	Drywall	Intact	White	0	Negative
375	G103	1	KITCHEN	A	Closet	Wood	Intact	White	0	Negative
376	G103	1	KITCHEN	A	Closet	Wood	Intact	White	0	Negative
377	G103	1	KITCHEN	A	Closet	Wood	Intact	White	0	Negative
378	G103	1	KITCHEN	A	Closet	Drywall	Intact	White	0	Negative
379	G103	1	KITCHEN	B	Cabinet	Drywall	Intact	White	0	Negative
380	G103	1	KITCHEN	C	Cabinet	Wood	Intact	White	0	Negative
381	G103	1	KITCHEN	C	Window	Wood	Intact	White	0	Negative
382	G103	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0	Negative
383	G103	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative
384	G103	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
385	G103	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
386	G103	1	BEDROOM-1	D	Ceiling	Drywall	Intact	White	0	Negative
387	G103	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative
388	G103	1	BEDROOM-1	C	Closet	Wood	Intact	White	0	Negative
389	G103	1	BEDROOM-1	C	Closet 0	Wood	Intact	White	0	Negative
390	G103	1	BEDROOM-1	C	Closet 0	Wood	Intact	White	0	Negative
391	G103	1	BEDROOM-1	C	Closet 0	Drywall	Intact	White	0	Negative
392	G103	1	BEDROOM-1	B	DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
393	G103	1	BEDROOM-1	B	DOOR CASING	Wood	Intact	White	0.01	Negative
394	G103	1	BEDROOM-1	B	DOOR CASING	Wood	Intact	White	0	Negative
395	G103	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
396	G103	1	BATHROOM	0	WALL	Drywall	Intact	White	0	Negative
397	G103	1	BATHROOM	0	WALL	Drywall	Intact	White	0	Negative
398	G103	1	BATHROOM	0	WALL	Drywall	Intact	White	0	Negative
399	G103	1	BATHROOM	0	Ceiling 0	Drywall	Intact	White	0	Negative
400	G103	1	BATHROOM	D	Door 0	Wood	Intact	White	0	Negative
401	G103	1	BATHROOM	D	Door casing	Wood	Intact	White	0	Negative
402	R102	1	ENTRY	A	WALL	Drywall	Intact	White	0	Negative
403	R102	1	ENTRY	B	WALL	Drywall	Intact	White	0	Negative
404	R102	1	ENTRY	C	WALL	Drywall	Intact	White	0	Negative
405	R102	1	ENTRY	D	WALL	Drywall	Intact	White	0	Negative
406	R102	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
407	R102	1	ENTRY	A	DOOR	Wood	Intact	White	0.01	Negative
408	R102	1	ENTRY	A	DOOR CASING	Wood	Intact	White	0	Negative
409	R102	1	ENTRY	A	CLOSET DOOR	Wood	Intact	White	0	Negative
410	R102	1	ENTRY	A	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
411	R102	1	ENTRY	A	CLOSET SHELF	Wood	Intact	White	0	Negative
412	R102	1	ENTRY	A	CLOSET	Drywall	Intact	White	0	Negative
413	R102	1	ENTRY	B	CLOSET DOOR	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
414	R102	1	ENTRY	0	CLOSET DOOR CASING	Drywall	Intact	White	0	Negative
415	R102	1	ENTRY	B	CLOSET SHELF	Wood	Intact	White	0	Negative
416	R102	1	ENTRY	C	CLOSET	Drywall	Intact	White	0	Negative
417	R102	1	ENTRY	D	CLOSET	Drywall	Intact	White	0.05	Negative
418	R102	1	ENTRY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
419	R102	1	ENTRY	D	CLOSET DOOR	Wood	Intact	White	0	Negative
420	R102	1	ENTRY	D	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
421	R102	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
422	R102	1	LIVING RM	B	WALL	Drywall	Intact	White	0	Negative
423	R102	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
424	R102	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
425	R102	1	LIVING RM	D	WALL	Drywall	Intact	White	0.23	Negative
426	R102	1	LIVING RM	A	WINDOW SILL	Wood	Intact	White	0	Negative
427	R102	1	LIVING RM	A	BASEBOARD	Wood	Intact	White	0	Negative
428	R102	1	KITCHEN	A	WALL	Drywall	Intact	White	0	Negative
429	R102	1	KITCHEN	B	WALL	Drywall	Intact	White	0	Negative
430	R102	1	KITCHEN	C	WALL	Drywall	Intact	White	0	Negative
431	R102	1	KITCHEN	D	WALL	Drywall	Intact	White	0	Negative
432	R102	1	KITCHEN	B	WINDOW SILL	Wood	Intact	White	0	Negative
433	R102	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0.01	Negative
434	R102	1	KITCHEN	A	CABINET-LWR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
435	R102	1	KITCHEN	A	CLOSET DOOR	Wood	Intact	White	0	Negative
436	R102	1	KITCHEN	D	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
437	R102	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
438	R102	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
439	R102	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
440	R102	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
441	R102	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
442	R102	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
443	R102	1	BEDROOM	A	BASEBOARD	Wood	Intact	White	0	Negative
444	R102	1	BEDROOM	A	WINDOW SILL	Wood	Intact	White	0	Negative
445	R102	1	BEDROOM	C	CLOSET DOOR	Wood	Intact	White	0	Negative
446	R102	1	BEDROOM	C	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
447	R102	1	BEDROOM	C	CLOSET SHELF	Wood	Intact	White	0	Negative
448	R102	1	BEDROOM	C	CLOSET	Drywall	Intact	White	0	Negative
449	R102	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
450	R102	1	BATHROOM	B	WALL	Drywall	Intact	White	0.01	Negative
451	R102	1	BATHROOM	C	WALL	Drywall	Intact	White	0	Negative
452	R102	1	BATHROOM	D	WALL	Drywall	Intact	White	0	Negative
453	R102	1	BATHROOM	D	CEILING	Drywall	Intact	White	0	Negative
454	R102	1	BATHROOM	B	CABINET	Drywall	Intact	White	0	Negative
455	R102	1	BATHROOM	A	DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
456	R102	1	BATHROOM	A	DOOR CASING	Wood	Intact	White	0.01	Negative
457	M104	1	ENTRY	A	WALL	Drywall	Intact	White	0.01	Negative
458	M104	1	ENTRY	B	WALL	Drywall	Intact	White	0	Negative
459	M104	1	ENTRY	C	WALL	Drywall	Intact	White	0.03	Negative
460	M104	1	ENTRY	D	WALL	Drywall	Intact	White	0	Negative
461	M104	1	ENTRY	D	Ceiling	Drywall	Intact	White	0	Negative
462	M104	1	ENTRY	B	Closet 3	Drywall	Intact	White	0.01	Negative
463	M104	1	ENTRY	B	Closet 3	Drywall	Intact	White	0	Negative
464	M104	1	ENTRY	B	DOOR CASING	Drywall	Intact	White	0.02	Negative
465	M104	1	ENTRY	B	DOOR	Drywall	Intact	White	0.09	Negative
466	M104	1	ENTRY	C	Closet 3	Drywall	Intact	White	0.01	Negative
467	M104	1	LIVING RM	C	BASEBOARD	Wood	Intact	White	0	Negative
468	M104	1	LIVING RM	C	BASEBOARD	Metal	Intact	White	0	Negative
469	M104	1	LIVING RM	A	Wall 0	Drywall	Intact	White	0	Negative
470	M104	1	LIVING RM	B	Wall 0	Drywall	Intact	White	0	Negative
471	M104	1	LIVING RM	C	Wall 0	Drywall	Intact	White	0	Negative
472	M104	1	LIVING RM	D	Wall 0	Drywall	Intact	White	0	Negative
473	M104	1	LIVING RM	D	Ceiling 0	Drywall	Intact	White	0	Negative
474	M104	1	LIVING RM	D	WINDOW	Wood	Intact	White	0	Negative
475	M104	1	KITCHEN	A	WINDOW	Drywall	Intact	White	0	Negative
476	M104	1	KITCHEN	B	WINDOW	Drywall	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
477	M104	1	KITCHEN	C	WINDOW	Drywall	Intact	White	0	Negative
478	M104	1	KITCHEN	D	WINDOW	Drywall	Intact	White	0	Negative
479	M104	1	KITCHEN	A	Closet	Wood	Intact	White	0	Negative
480	M104	1	KITCHEN	A	Closet	Wood	Intact	White	0	Negative
481	M104	1	KITCHEN	A	Closet	Wood	Intact	White	0	Negative
482	M104	1	KITCHEN	A	Closet	Drywall	Intact	White	0	Negative
483	M104	1	KITCHEN	B	Cabinet	Drywall	Intact	White	0	Negative
484	M104	1	KITCHEN	C	Cabinet	Wood	Intact	White	0	Negative
485	M104	1	KITCHEN	C	Window	Wood	Intact	White	0	Negative
486	M104	1	BEDROOM-1	A	WALL	Drywall	Intact	White	0	Negative
487	M104	1	BEDROOM-1	B	WALL	Drywall	Intact	White	0	Negative
488	M104	1	BEDROOM-1	C	WALL	Drywall	Intact	White	0	Negative
489	M104	1	BEDROOM-1	D	WALL	Drywall	Intact	White	0	Negative
490	M104	1	BEDROOM-1	D	Ceiling	Drywall	Intact	White	0	Negative
491	M104	1	BEDROOM-1	A	WINDOW SILL	Wood	Intact	White	0	Negative
492	M104	1	BEDROOM-1	C	Closet	Wood	Intact	White	0	Negative
493	M104	1	BEDROOM-1	C	Closet 0	Wood	Intact	White	0	Negative
494	M104	1	BEDROOM-1	C	Closet 0	Wood	Intact	White	0	Negative
495	M104	1	BEDROOM-1	C	Closet 0	Drywall	Intact	White	0	Negative
496	M104	1	BEDROOM-1	B	DOOR	Wood	Intact	White	0	Negative
497	M104	1	BEDROOM-1	B	DOOR CASING	Wood	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
498	M104	1	BEDROOM-1	B	DOOR CASING	Wood	Intact	White	0	Negative
499	M104	1	BATHROOM	A	WALL	Drywall	Intact	White	0	Negative
500	M104	1	BATHROOM	0	WALL	Drywall	Intact	White	0	Negative
501	M104	1	BATHROOM	0	WALL	Drywall	Intact	White	0	Negative
502	M104	1	BATHROOM	0	WALL	Drywall	Intact	White	0	Negative
503	M104	1	BATHROOM	0	Ceiling 0	Drywall	Intact	White	0	Negative
504	M104	1	BATHROOM	D	Door	Wood	Intact	White	0	Negative
505	M104	1	BATHROOM	D	Door casing	Wood	Intact	White	0	Negative
506	O106	1	ENTRY	A	WALL	Drywall	Intact	White	0.01	Negative
507	O106	1	ENTRY	0	WALL	Drywall	Intact	White	0	Negative
508	O106	1	ENTRY	C	WALL	Drywall	Intact	White	0.02	Negative
509	O106	1	ENTRY	D	WALL	Drywall	Intact	White	0.03	Negative
510	O106	1	ENTRY	D	DOOR	Wood	Intact	White	0.07	Negative
511	O106	1	ENTRY	D	CEILING	Drywall	Intact	White	0	Negative
512	O106	1	ENTRY	D	DOOR	Wood	Intact	White	0.15	Negative
513	O106	1	ENTRY	D	DOOR CASING	Wood	Intact	White	0.01	Negative
514	O106	1	ENTRY	A	CLOSET DOOR	Wood	Intact	White	0	Negative
515	O106	1	ENTRY	0	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
516	O106	1	ENTRY	D	CLOSET		Intact	White	0	Negative
517	O106	1	ENTRY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
518	O106	1	ENTRY	B	CLOSET DOOR	Wood	Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
519	O106	1	ENTRY	B	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
520	O106	1	ENTRY	B	CLOSET	Drywall	Intact	White	0	Negative
521	O106	1	ENTRY	B	CLOSET SHELF	Wood	Intact	White	0.01	Negative
522	O106	1	HALLWAY	A	WALL	Drywall	Intact	White	0	Negative
523	O106	1	HALLWAY	D	WALL	Drywall	Intact	White	0	Negative
524	O106	1	HALLWAY	D	WALL DOOR	Wood	Intact	White	0	Negative
525	O106	1	HALLWAY	D	CLOSET	Drywall	Intact	White	0	Negative
526	O106	1	HALLWAY	D	CLOSET SHELF	Wood	Intact	White	0	Negative
527	O106	1	HALLWAY	D	CEILING	Drywall	Intact	White	0.01	Negative
528	O106	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
529	O106	1	LIVING RM	B	WALL	Drywall	Intact	White	0.01	Negative
530	O106	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
531	O106	1	LIVING RM	0	WALL	Drywall	Intact	White	0.02	Negative
532	O106	1	LIVING RM	0	Ceiling	Drywall	Intact	White	0	Negative
533	O106	1	LIVING RM	A	BASEBOARD	Wood	Intact	White	0.01	Negative
534	O106	1	LIVING RM	A	WALL	Drywall	Intact	White	0	Negative
535	O106	1	LIVING RM	B	WALL	Drywall	Intact	White	0.08	Negative
536	O106	1	LIVING RM	C	WALL	Drywall	Intact	White	0	Negative
537	O106	1	LIVING RM	D	WALL	Drywall	Intact	White	0	Negative
538	O106	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
539	O106	1	KITCHEN	D	CLOSET DOOR CASING	Wood	Intact	White	0.01	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
540	O106	1	KITCHEN	D	CLOSET	Drywall	Intact	White	0	Negative
541	O106	1	KITCHEN	D	CLOSET SHELF	Wood	Intact	White	0	Negative
542	O106	1	KITCHEN	B	WINDOW SILL	Wood	Intact	White	0	Negative
543	O106	1	KITCHEN	B	WALL	Metal	Intact	White	0	Negative
544	O106	1	KITCHEN	C	CABINET-UPR	Wood	Intact	White	0	Negative
545	O106	1	KITCHEN	A	CABINET-LWR	Wood	Intact	White	0	Negative
546	O106	1	BEDROOM	A	WALL	Drywall	Intact	White	0	Negative
547	O106	1	BEDROOM	B	WALL	Drywall	Intact	White	0	Negative
548	O106	1	BEDROOM	C	WALL	Drywall	Intact	White	0	Negative
549	O106	1	BEDROOM	D	WALL	Drywall	Intact	White	0	Negative
550	O106	1	BEDROOM	D	CEILING	Drywall	Intact	White	0	Negative
551	O106	1	BEDROOM	D	WINDOW SILL	Wood	Intact	White	0	Negative
552	O106	1	BEDROOM	D	BASEBOARD	Wood	Intact	White	0	Negative
553	O106	1	BEDROOM	D	WALL	Metal	Intact	White	0.01	Negative
554	O106	1	BEDROOM	B	CLOSET DOOR	Wood	Intact	White	0	Negative
555	O106	1	BEDROOM	B	CLOSET	Drywall	Intact	White	0	Negative
556	O106	1	BEDROOM	B	CLOSET SHELF	Wood	Intact	White	0	Negative
557	O106	1	BEDROOM	B	DOOR	Wood	Intact	White	0	Negative
558	O106	1	BEDROOM	B	DOOR CASING	Wood	Intact	White	0	Negative
559	O106	1	BEDROOM-2	A	WALL	Drywall	Intact	White	0	Negative
560	O106	1	BEDROOM-2	B	WALL		Intact	White	0	Negative

Sample No:	Unit:	Floor:	Room:	Side:	Component:	Substrate:	Condition:	Color:	Pb (mg/cm²):	Conclusion:
561	O106	1	BEDROOM-2	C	WALL	Drywall	Intact	White	0.01	Negative
562	O106	1	BEDROOM-2	D	WALL	Drywall	Intact	White	0	Negative
563	O106	1	BEDROOM-2	D	CEILING	Drywall	Intact	White	0	Negative
564	O106	1	BEDROOM-2	D	BASEBOARD	Wood	Intact	White	0	Negative
565	O106	1	BEDROOM-2	D	WINDOW SILL	Wood	Intact	White	0	Negative
566	O106	1	BEDROOM-2	C	CLOSET DOOR	Wood	Intact	White	0	Negative
567	O106	1	BEDROOM-2	C	CLOSET DOOR CASING	Wood	Intact	White	0	Negative
568	O106	1	BEDROOM-2	C	CLOSET	Drywall	Intact	White	0.01	Negative
569	O106	1	BEDROOM-2	C	CLOSET SHELF		Intact	White	0	Negative
570	O106	1	BATHROOM-1	A	WALL	Drywall	Intact	White	0	Negative
571	O106	1	BATHROOM-1	B	WALL	Drywall	Intact	White	0	Negative
572	O106	1	BATHROOM-1	B	WALL	Drywall	Intact	White	0	Negative
573	O106	1	BATHROOM-1	D	WALL	Drywall	Intact	White	0	Negative
574	O106	1	BATHROOM-1	D	CEILING	Drywall	Intact	White	0	Negative
575	O106	1	BATHROOM-1	A	CABINET	Wood	Intact	White	0	Negative
576	O106	1	BATHROOM-1	D	DOOR	Wood	Intact	White	0	Negative
577	O106	1	BATHROOM-1	D	DOOR CASING	Wood	Intact	White	0	Negative
578			Calibrate						1.45	Positive
579			Calibrate						1.3	Positive
580			Calibrate						1.05	Positive

End of Sample Log

APPENDIX 'B'

NITON XRF PERFORMANCE CHARACTERISTICS

Performance Characteristic Sheet

EFFECTIVE DATE: April 17, 1998 **EDITION NO.: 4**

MANUFACTURER AND MODEL:
Make: *Niton Corporation*
Models: *XL-309, 701-A, 702-A, and 703-A Spectrum Analyzers*
Source: ^{109}Cd (10 - 40 mCi initial source strength)
Note: This Performance Characteristic Sheet (PCS) is applicable to the listed Niton XRF instruments which have an operating software version of 5.1 (or equivalent) using a variable-time mode, and to Niton instruments having an operating software version of 1.2C (or equivalent) using a fixed-time mode. This sheet supersedes all previous sheets for the XRF instruments made by the Niton Corporation and the 1993 testing of XL prototypes reported in the document titled: *A Field Test of Lead-Based Paint Testing Technologies: Technical Report* (EPA Report No. 747-R-95-002b, May 1995).

FIELD OPERATION GUIDANCE

This PCS provides supplemental information to be used in conjunction with Chapter 7 (Lead-Based Paint Inspection) of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown in this sheet are applicable only when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the HUD Guidelines.

OPERATING PARAMETERS

Use of variable-time paint test mode ("K & L + Spectra" mode) on instruments running software version 5.1 (or equivalent) using the "Combined Lead Reading" with the instrument's display of a 95%–confident (2-sigma) *Positive* or *Negative* determination versus the action-level as the stopping point of the measurement.

Use of nominal 20-second readings for L-shell results or 120-second readings for K-shell results on instruments running software version 1.2C (or equivalent) in a fixed-time mode.

XRF CALIBRATION CHECK LIMITS

0.9 to 1.2 mg/cm^2 (inclusive) for instruments running software version 5.1 (or equivalent)
0.9 to 1.1 mg/cm^2 (inclusive) for instruments running software version 1.2C (or equivalent)

SUBSTRATE CORRECTION:
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

For XRF results below 4.0 mg/cm^2, substrate correction recommended for:

None.

Substrate correction is <u>not</u> recommended for:

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

THRESHOLDS:
(applicable to instruments running software versions 5.1 (or equivalent) or 1.2C (or equivalent))

DESCRIPTION	SUBSTRATE	THRESHOLD* (mg/cm^2)
Results not corrected for substrate bias	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0
*For instruments running software version 1.2C (or equivalent), application of the decision making methodology recommended in this PCS can result in inconclusive results regardless of whether decisions are based on L-shell readings, K-shell readings, or both.		

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE

Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Three rounds of tests were conducted on approximately 150 test locations in each round.

One round of testing was conducted March 1995 using a single instrument with an October 1994 source at 10 mCi initial strength while running software version 1.2C in a fixed-time mode with nominal 20-second readings for L-shell results or 120-second readings for K-shell results.

The two other rounds of testing were conducted December 1997 using three different instruments, each running software version 5.1. Two of these instruments had new sources installed November 1997, the other instrument had a new source installed December 1997, all with 10 mCi initial strength. The December 1997 testing was performed in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the stopping point of the measurement.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film). Measurements should be bracketed by successful XRF calibration check readings. XRF calibration checks are performed at the beginning and end of the day's inspections or at extended delays in testing, and (at least) every four hours during inspections or at a frequency recommended by the manufacturer, whichever is more stringent. If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds. Measurements which are not bracketed by successful calibration checks should be considered suspect.

EVALUATING THE QUALITY OF XRF TESTING

Randomly select ten testing combinations for re-testing from each house or from two randomly selected units in multifamily housing. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

For instruments running software version 5.1 (or equivalent), conduct the test in the variable-time paint test mode "K & L + Spectra" using the "Combined Lead Reading" with 2-sigma confidence interval as the

stopping point of the measurement. For instruments running software version 1.2C (or equivalent) in the fixed-time mode, use either 20-second readings for the L-shell results or 120-second readings for the K-shell results, as described in the "Classifications of Results" section below.

Conduct XRF re-testing at the ten testing combinations selected for re-testing.

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

Compute the Retest Tolerance Limit by the following steps:

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

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

Square the average for each testing combination.

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

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

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

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

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

Compute the average of all ten original XRF results.

Compute the average of all ten retest XRF results.

Find the absolute difference of the two averages.

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

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

BIAS AND PRECISION

Bias and precision data were not computed for instruments using software version 5.1 and taking variable mode readings. (See Appendix B, Section B.3.2 of the document titled *Methodology for XRF Performance Characteristic Sheets*, EPA-747-R-45-008, September 1997). During the 1997 testing, there were 12 testing locations with laboratory-measured lead levels equal to or greater than 4.0 mg/cm^2 lead which were tested using two instruments in the variable-time paint test mode. None of these testing locations had XRF readings less than 1.0 mg/cm^2. These data are for illustrative purposes only. Substrate correction is not recommended for this XRF instrument.

The bias and precision data given below are for instruments running software version 1.2C (or equivalent) and were computed without substrate correction using the 20-second L-shell readings from samples with

reported laboratory results less than 4.0 mg/cm^2 lead. Readings reported by the instrument in the "*x*" or ">>*x*" format were not used in the computation. During the 1995 testing there were 15 test locations with a laboratory reported result equal to or greater than 4.0 mg/cm^2 lead. Of these, 12 readings were reported in the ">*x*" or ">>*x*" format, but of the 3 remaining, 1 had an XRF reading less than 1.0 mg/cm^2.

Bias & Precision Results for Niton Model XL-309 Instruments Using Software Version 1.2C (or equivalent)

MEASURED AT	SUBSTRATE	BIAS (mg/cm^2)	PRECISION* (mg/cm^2)
0.0 mg/cm^2	All	0.0	<0.1
0.5 mg/cm^2	All	0.0	0.2
1.0 mg/cm^2	All	0.0	0.3
2.0 mg/cm^2	All	-0.1	0.5
*Precision at 1 standard deviation			

CLASSIFICATION OF RESULTS

This section describes how to apply information displayed by this instrument to determine the presence or absence of lead in paint using the procedures recommended in Chapter 7 of the HUD Guidelines. These guidelines recommend classifying XRF results as positive, negative, or inconclusive compared to the lead-based paint 1.0 mg/cm^2 standard.

For Niton Model XL-309, 701-A, 702-A, and 703-A instruments running software version 5.1 (or equivalent), XRF results are classified using a threshold. There is no inconclusive classification when using the threshold for instruments running software version 5.1. In single-family and multifamily housing, an XRF result is a single reading taken on each testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.) For computing the XRF result, use all digits that are displayed by the instrument as the "Combined Lead Reading." Results are classified as positive (i.e., ≥ 1.0 mg/cm^2), if greater than or equal to the threshold, or negative (< 1.0 mg/cm^2) if less than the threshold. Threshold values, provided in the tables above, were determined by comparing XRF test results to the 1.0 mg/cm^2 standard.

For Niton Model XL-309 instruments running software version 1.2C (or equivalent), additional procedures are needed to classify readings because this software displays readings and ancillary information useful for classification purposes. An algorithmic procedure is described that makes use of the XRF reading and other displayed information.

The algorithm for classifying results is first applied to 20-second nominal L-shell readings followed by 120-second nominal K-shell readings to resolve inconclusive results, or to recommend laboratory analysis of paint-chip samples, if necessary. A listing of laboratories recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP) for the confirmational analysis of inconclusive results is available from the National Lead Clearinghouse at 1-800-424-LEAD.

XRF results are classified using threshold values for the Model XL-309 software version 1.2C (or equivalent). Results are classified as positive if greater than or equal to the threshold, and as negative if less than the threshold. There is no inconclusive classification when using threshold values. However, in some cases, inconclusive results still may be obtained regardless of whether decisions are based on L-shell readings, K-shell readings, or both, as described below. Use all digits that are reported by the instrument. Threshold values, which were determined for comparing results to the 1.0 mg/cm^2 standard, are provided in the table above.

This instrument displays its lead-based paint measurements as both L-shell and K-shell readings based on

the corresponding L-shell and K-shell X-ray fluorescence (refer to Chapter 7 of the HUD Guidelines for more details). The L-shell readings (or L-readings) are displayed as a numerical result alone, or as a numerical result preceded by either one greater-than symbol (">") or preceded by two greater-than symbols (">>"). The two greater-than symbols will only be displayed when the detected lead level is greater than 5.0 mg/cm^2. Since the maximum lead level reported by this instrument is 5.0 mg/cm^2, lead levels greater than 5.0 mg/cm^2 are displayed as ">>5.0". Other examples of how L-readings can be displayed (in mg/cm^2 units) are "0.6" and ">0.9". The numerical display alone implies that the instrument measured the lead in the paint at the displayed level using L-shell X-ray fluorescence; 0.6 mg/cm^2 in the example. A number preceded by a single greater-than symbol indicates that the measurable lead is deeply buried in the paint and the detected lead level is greater than the displayed value. In the example, >0.9 indicates that the instrument detected lead deeply buried in paint at a level greater than 0.9 mg/cm^2. K-shell readings (or K-readings) are displayed in one of two ways: 1) as a single K-reading plus and minus a "precision" value or 2) as an upper K-reading and lower K-reading.

The same method is used for testing in single-family and multifamily housing. The HUD Guidelines recommend taking a single XRF reading on a testing combination. (A testing combination is a location on a painted surface as defined in Chapter 7 of the HUD Guidelines.) For testing combinations involving up to four walls in a room, each wall is classified on its individual XRF reading. (See Chapter 7 for testing procedures if there are more than four walls in a room, and for testing exterior walls.)

A. Take a single 20-second nominal reading on each testing combination.

B. Classify the L-reading based on the type of information displayed.

<u>If two greater-than symbols are displayed then</u>:

- Classify the >>5.0 L-reading as POSITIVE

<u>If one greater-than symbol is displayed then</u>:

- Classify the L-reading as POSITIVE if the numerical result that follows the greater than symbol is equal to or greater than 1.0.

- Classify the L-reading as INCONCLUSIVE if the numerical result that follows the greater than symbol is less than 1.0.

<u>If the numerical L-reading is displayed alone (that is, without any preceding greater-than symbols) then</u>:

- Classify the L-reading as POSITIVE if the numerical result is equal to or greater than 1.0.

- Classify the L-reading as NEGATIVE if the numerical result is less than 1.0.

C. Resolution of results classified as inconclusive.

All results classified as inconclusive above require further investigation. Take a 120-second nominal XRF reading and use the K-shell reading. In multifamily housing, resolve the inconclusive classification with a single K-shell reading or laboratory analysis as described below.

- Classify the result as POSITIVE if either the K-reading minus the displayed precision value <u>or</u> the lower K-reading is equal to or greater than 1.0.

- Classify the result as NEGATIVE if either the K-reading plus the displayed precision value <u>or</u> the upper K-reading is less than 1.0.

- Classify the result as INCONCLUSIVE if neither of the above decision rules using the K-reading provided a classification which can occur when the upper K-reading is equal to or greater than 1.0 or the lower K-reading is less than 1.0.

- To resolve a remaining INCONCLUSIVE classification, remove a paint-chip sample as described in Chapter 7 of the HUD Guidelines and have it analyzed by a qualified laboratory as described in Chapter 7.

TESTING TIMES (FOR SOFTWARE VERSION 5.1)

For the variable-time paint test mode "K & L + Spectra," the instrument continues measuring until a positive or negative result is indicated relative to an action level (1.0 mg/cm^2 for archive testing) and the current precision, or until the reading is terminated by moving the instrument away from the testing surface. None of the variable mode readings were terminated because of the two-minute limit used for archive testing. The following table provides testing time information for this testing mode. Source strength and type of substrate will affect actual testing times.

Testing Times for Instruments Running Software Version 5.1						
Variable mode testing times (seconds)						
	All data			Median for laboratory—measured lead levels (mg/cm^2)		
Substrate	25th Percentile	Median	75th Percentile	Pb < 0.25	0.25 <= Pb < 1.0	1.0 <= Pb
Wood Drywall	6	8	15	6	20	5
Metal	6	13	20	13	20	6
Brick Concrete Plaster	6	11	20	9	18	6

DOCUMENTATION

This PCS was developed in accordance with the methodology in the EPA report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008, September 1997). This report provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) under a grant from the U. S. Environmental Protection Agency and a separate contract between MRI and the XRF manufacturer. The U.S. Department of Housing and Urban Development (HUD) has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*. While MRI reserves the right to revise this XRF Performance Characteristic Sheet at any time, HUD's statement of acceptance would not apply to a revision until HUD has reviewed the revision and made a determination of its acceptability.

APPENDIX 'C'

PERSONNEL CERTIFICATION

STATE OF WASHINGTON

Department of Community, Trade and Economic Development
Lead-Based Paint Program

Kiblinger J Lance

Has fulfilled the certification requirements of Washington Administrative code (WAC) 365-230 and has been certified to conduct lead-based paint activities pursuant to WAC 365-230-200 as a:

Risk Assessor

Certification #	Issuance Date	Expiration Date
0079	6/28/2004	6/28/2007