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Visual Assessment & Partial Lead-Based Paint Inspection

For The Dwelling Located at:

St John's College
Lower Dorms
1160 Camino Cruz Blanca
Santa Fe, NM 87505

Prepared For:

PBI Consulting
Andrew Lyons – Project Manager
PO Box 6020
Santa Fe, NM 87502

Prepared By:

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Certification No: NM-R-7065-5
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XRF license No: WA-0653-D-106-B

Inspection Date:
February 5, 2018

Report Date:
February 7, 2018

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Inspection Summary, Results

REECON conducted a Visual Assessment & Partial Lead-Based Paint (LBP) Inspection (PPI) at St John's College, Lower Dorms, 1160 Camino Cruz Blanca, Santa Fe, NM 87505 on February 5, 2018. REECON was tasked by PBI Consulting. During the visual assessment of the property REECON observed that deteriorated paint was present on the property. In association with those findings, a Lead-Based Paint Inspection was performed. Several accessible, painted or coated building components (that potentially contain lead-based paint) were tested utilizing X-Ray Fluorescence (XRF) analysis. The data collected is in Exhibit I of this report. XRF information is detailed in Appendix B of this report. The tasking was to test using an XRF, all "like" painted surfaces, especially those that were "cracked" or "peeling", and to test any painted surfaces that are subject to impact or friction, in order to determine if those surfaces contain LBP; and therefore may present LBP "hazardous" conditions.

Background/Use Information:

The property functions as a college student residential dormitory. The owner and/or representative of this property was present at the time of this inspection. No written permission was required to access the property as the property owner and/or agent were present at the time of the inspection. This property will undergo a construction project scheduled for the summer of 2018, and the owner/project manager is concerned about disturbing painted surfaces, primarily window and door replacement, among other minor construction upgrades.

Site Information:

The lower dorms consist of multi-level, flat-roof, stucco/frame, residential dormitories. This property is estimated to have been originally constructed in the mid 1960's. The dorms are laid out in a triangle pattern and the following dorms and common areas were tested via XRF:

Health Center (Common Area)
Calliope Dorm
Clio Dorm
Erato Dorm (Exterior Only)
Euterpe
Polyhymnia
Terpsichore
Thalia
Urania
Lower Commons (Common Area

Paint Inspection results:

As can be seen in the table (below), there were no LBP or lead containing components discovered on this property during the LBP Inspection.

Lead-based Components—Those items that contain lead at or above 0.9 mg/cm^2. These items are highlighted in orange on the XRF Data Sheet (Exhibit I).

Data ID	Component	Location	Color	Condition	HUD/EPA Lead Status (≥1.0mg/cm^2)	Affected Area in ft^2	XRF Result mg/cm^2
NONE							

All components listed in the table (above) contain lead. All painted housing construction components in this table contain Lead-Based Paint (LBP). All tile components listed in this table contain lead in the glaze. All components in this table that are rated "**poor**" or "**unsat**" as well as any friction surfaces and any plastic mini-blinds constitute lead (Pb) "hazards".

Mini-Blinds containing lead (Pb) are special cases and are discussed in Appendix D of this report.

Ceramic Tiles containing lead (Pb) are special cases and are discussed in Appendix E of this report.

Lead-Containing Components—Those items that contain lead at or above 0.1 mg/cm^2, but below 0.9 mg/cm^2. These items are on the XRF Data Sheet (Exhibit I).

While these components on the XRF Data Sheet do contain some traces of lead (Pb), the amount is less than that described by HUD/EPA as defining LBP. It is recommended that all components rated "**poor**" or "**unsat**" in the XRF Data Sheet be stabilized with paint to reduce the likelihood of them contributing to any future lead contamination on the property.

Non-Lead-Containing Components—Those items that contain lead below 0.1 mg/cm^2, or contain a negative K-shell reading. These items are on the XRF Data Sheet (Exhibit I).

All other components checked by XRF throughout the property, on the XRF Data Sheet, contained no detectable lead (Pb) content.

Lead Stabilization and/or Abatement Cost Estimates:

Property Address: St John's College, Lower Dorms
1160 Camino Cruz Blanca, Santa Fe, NM 87505

No lead hazards were found during this LBP inspection.

Cost Estimate = Zero

A Final LBP Clearance Inspection (F-CI), following all hazard removal and all renovation is NOT required.

Questions or Concerns:

All questions or concerns derived from the contents of this report should be directed to a REECON Risk Assessor. A REECON Risk Assessor can be reached by e-mail at scott@reecon.com, or by phone at 505 828-1113.

Appendix A

Lead-Based Paint Definitions and Standards

Definitions:

Lead-Based Paint Inspection—defines and reports on the exact location of any/all painted surfaces that contain LBP by the HUD/EPA Interim Standard*.

***Note**:
The term "Standard" is used interchangeably with "Interim Standard". All of the HUD Guidelines Standards and EPA's Work Practice Standards are, in fact, Interim Standards, meaning that they may be subject to regulatory change with new data that supports a change to the "Standard". "Standards" can also be "action levels".

The HUD Guidelines require that painted interior walls of each room must be tested during a paint inspection. The requirement is driven by the fact that the interior walls generally contain the greatest painted areas within the home, and the fact that the lead content of the paint seldom is applied or distributed evenly.

Numerous interior, wooden, concrete, tile, and sheetrock/plaster dwelling components are checked during inspection. These include, but are not limited to, exterior walls, wall trim, window trim, frames and sills, roof trim and soffits, interior walls, hard surface flooring, baseboards, bathtubs and showers, cabinets, countertops and backsplashes, doors, door jambs, etc.

Lead-Based Paint Risk Assessment—A Risk Assessment is an onsite investigation of a residential dwelling for Lead-Based Paint (LBP) "hazards", that includes, but may not be limited to, a visual inspection, limited environmental samplings (assays) of deteriorated paint, soil and dust. The assays may be accomplished via XRF or laboratory analysis of paint chip samples, or a combination of both. The Risk Assessment will include a detailed report that identifies potential LBP "hazards"; controls (repair/replacement) associated with those "hazards" and provide monitoring recommendations when appropriate. In particular, the Risk Assessment is designed to identify LBP "hazards" that include:

- Deteriorated LBP (chipped, flaking, cracking, chalking, etc.)
- Lead contaminated dust, soil and/or
- LBP surfaces that, are accessible to small children, are friction (rubbing) surfaces, or impact (slamming) surfaces.

The HUD Guidelines and EPA's *Work Practice Standards* require that all damaged (cracked/peeling) paint surfaces, as well as all surfaces under impact (doors/jambs) or friction (sliding windows) be tested during a LBP Risk Assessment. Dust samples are taken at "key" locations that follow airflow and traffic patterns within the home in order to determine if lead is present. Bare soil samples are taken from the drip line of a residence and from any fenced in child play areas, at minimum, to determine if lead is present.

Lead-Based Paint Ratings—REECON uses a four-scale paint rating system as follows:

- **Good—**Paint that is "new" or still has much of its "life" remaining. This rating requires no action by a homeowner or agency.
- **Fair—**Paint that is estimated to fail within 6-12 months. Paint requires little more than cleaning the surface prior to repainting. Homeowner may save considerable expense by applying another stabilizing coat of paint during the next 6-12 months.
- **Poor—**Paint that is "cracked or damaged such that its water tight integrity is compromised. Paint and/or substrate may require some repair prior to repainting.

- **Unsatisfactory (Unsat)—**Paint that is peeling such that the substrate beneath the paint is visible. Paint and/or substrate will usually require some repair prior to repainting. Homeowner may expect some wood component replacement due to "dry-rot" or metal component replacement due to "rust".

Standards:

EPA's Lead-Based Paint Standard—defines LBP as ≥1.0 mg/cm^2 (or 0.5% by weight).

Lead-Based Paint Hazard—is, by EPA Standard:
- Any LBP rated to be "**poor**" or "**unsat**" condition.
- ≥2ft^2, interior or ≥20ft^2, exterior "hazardous" LBP may require professional, certified repair/removal.

Lead-Based Paint Dust Hazard—is, by EPA Standard:
- Floors (hard surfaced and carpeted)— ≥40 μg/ft^2
- Interior window sills—≥250 μg/ft^2
- Window troughs (tested only during "Clearance")— ≥400 μg/ft^2

Lead Contaminated Bare Soil Hazard—is, by EPA Standard:
- Bare Soil—≥400 PPM, for concentrated children's play areas (e.g. fenced back yards, schoolyards, playgrounds, ball fields, etc.) and vegetable gardens, requiring interim controls or abatement.
- Bare Soil—≥1200 PPM, for yard-wide average of all other residential bare soils, requiring interim controls or abatement.
- Bare Soil—≥5000 PPM, requires abatement.

OSHA Standard—is any level of airborne lead. The "action level" is 30 μg (micrograms) per M^3 (meter of air cubed) over an 8-hour, time-weighted-average (twa). This level will drive personnel protective equipment (PPE), such as respirators, coveralls, shower facilities, etc. The OSHA PEL (permissible elevation level) is 50μg/M^3 (twa). This level will add medical monitoring, increased respirator capability, etc. OSHA is concerned with airborne lead and its effect upon the renovation/abatement worker. When LBP surfaces will be disturbed during renovation, especially in small interior spaces (closets, small bathrooms, etc.), the contractor should have the space monitored with a testing device that will alarm when the "action level" is triggered.

OSHA has identified several activities (e.g. manual demolition, manual scraping, manual/power sanding, heat gun applications, general cleanup, power tool cleaning with dust collection systems, and spray painting) that pose varying levels of potential lead exposure to workers disturbing lead-containing paint. Estimated exposure levels of lead are founded in the activity itself, rather than the concentrations of lead present in the paint. For example, paints that contain 0.5% versus 15% of lead by weight or 0.8 mg/cm^2 versus 3.5 mg/cm^2 of lead in paint could present the same levels of potential exposure to workers.

Renovation, Repair and Painting Program (Consumer) — On homes built prior to 1978, common renovation, repair, and painting activities that disturb lead-based paint (like sanding, cutting, replacing windows, and more) can create hazardous lead dust and chips which can be harmful to adults and children. Home repairs that create even a small amount of lead dust are enough to poison your child and put your family at risk. In order to protect occupants, EPA recommends that homeowners should verify the presence of lead-based paint and/or lead hazards through risk assessments and/or paint inspections along with the use of lead-safe certified renovation contractors. More information on the RRP Program and where to find lead-safe renovators can be found at www.epa.gov/lead/.

Appendix B

Lead-Based Paint Inspection by XRF

XRF Information:

The NITON XLp 300 Spectrum Analyzer XRF used for this survey irradiates the paint on a given surface causing the lead in the paint, if present, to emit a characteristic frequency of X-ray radiation. The instrument identifies and counts these x-rays to determine a lead concentration and reports this concentration in mg/cm^2.

The XRF's (X-ray Fluorescence) source used to excite the lead is a 40-millicurie $Cadmium_{109}$ gamma radiation pellet housed and shielded within the instrument. This particular XRF underwent its standard resource and re-calibration by the factory in Tewksbury, MA in September, 2015.

The XRF provides readings of "K-shell" (high energy) and "L-shell (low energy) lead. The K-shell is the value that determines the amount of lead in the paint. The L-shell gives the operator information on the depth of the lead painted surface.

REECON uses the "Standard" mode of XRF operation during all Paint Inspections (PI) and/or Risk Assessments (RA). This mode is recommended by the manufacturer when taking assay samples. The operator holds the trigger when sampling using the standard mode, until he/she gains approximates 2σ (sigma) worth of data on any given surface. This provides approximately 95% accuracy.

Because the XRF has a capability (calibration accuracy) of $\pm 0.1 mg/cm^2$ when operating in the standard mode, REECON has chosen to consider all readings (values) equal to or above 0.9 mg/cm^2 to contain LBP. This REECON corporate decision is based on years of RA and PI experience with this particular instrument. This determination saves the homeowner the laboratory analysis cost of multiple paint-chip samples and does not adversely mark or harm any painted surface on the property, often requiring expensive/time consuming repair.

The XRF has, built into the software, substrate correction values that prevent the operator from having to make substrate corrections manually. The "standard" mode of operation will properly adjust for coding errors input into the XRF during inspection (e.g. setting sheetrock when the substrate is actually plaster, etc.).

Reading the XRF Data Sheet:

All K-shell XRF values above 0.1, but less than 0.9 mg/cm^2 may contain some lead even though the lead content is below the HUD/EPA standard defining LBP. All values at or above 0.9 mg/cm^2 are considered, by REECON, to be LBP.

When reading the XRF Data Sheet, Room refers to the location on the property being inspected (e.g. Living Room). Component refers to the item being inspected (e.g. Exterior Wall). Substrate refers to the type of surface being inspected (e.g. Sheetrock). Side refers to the area within the location being inspected (e.g. Front of Living Room). Color refers to the color of the paint (e.g. White).

XRF Calibration:

Calibration of the XRF is done to prove that the instrument is accurate. Calibrating the instrument includes the regular (on-site) "start" and "stop" calibrations, as well as any others taken against a known "assay-sample" provided by the manufacturer. The instrument is calibrated at the job site and re-calibrated approximately every hour thereafter, including job completion. The XRF must always remain within ± 0.1 of the factory test calibration for that specific serial numbered sample. This XRF device was resourced, calibrated and delivered to REECON in September of 2015.

Appendix C

Treatment and Disclosure of Lead-Based Paint

Paint Ratings and Repair:

Regulations do not allow paint condition ratings by a paint inspector; the regulations do allow such rating during a paint inspection when performed by a risk assessor. This is done to assist the homeowner/renovation contractor by alerting him/her to those painted surfaces that may require attention.

- Paints rated "Good" that contain lead present no current hazard unless disturbed.
- Paints rated "Fair" are nearing the end of their useful life and should be re-stabilized with another coat of paint before they can become a source of lead dust.
- Paints rated "Poor" (cracked) or "Unsatisfactory" (peeling) should be removed, the surfaces/substrates repaired/replaced and then re-painted. The lead paint removal process should involve capturing all of the leaded paint, not allowing it to contaminate soil or any interior surfaces.

Lead-Based Paint—the "do's" and 'don'ts" of LBP repair:

When painted surfaces contain LBP above the federal "action-levels"; **DO NOT** allow repairs to include:

a) Dry scraping or sanding, including machines without proper vacuum collection capability;
b) Open-flame burning or torching;
c) Abrasive blasting or removal without using HEPA vacuum exhaust tools;
d) Heat-guns that operate above 1100°F;
e) The use of ethylene chloride chemical strippers.

When painted surfaces contain LBP above the federal "action-levels"; **DO** require repairs to include:

a) Ground covering (plastic sheeting, etc.) to catch all LBP debris;
b) Containment of the affected areas (closed doors, plastic sheeting, etc.);
c) Use of HEPA filtering equipment attached to removal tools;
d) Use of HEPA filtering vacuums for area cleanup;
e) Disposal of any contaminants and contaminated components within containment (plastic bags) before removal from the site.

Non-Professional Repair of LBP Components:

It is often not legal to repair, abate, or apply interim controls to LBP "hazards" or painted components that contain LBP to rental properties or homes that shelter members not of your immediate family, unless you are trained to do so. However, it is permissible to make repairs when following (exactly) the written instructions of a certified LBP Risk Assessor. Those items that you can accomplish personally, involve:

- planting sod or placing other ground covering such as rock, over bare soil;
- painting surfaces that have been prepared professionally;
- removing components that will not disturb LBP, such as doors, roof trim, etc.

Title X's Disclosure Requirements:

A copy of this report must be provided to new lessees (tenants), providing the lease exceeds 100 days, and to purchasers of this property under Federal law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants.

Landlords and sellers are also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include standard warning language in their leases or sales contracts to ensure that parents/guardians have the information they need to protect their children from lead-based paint hazards.

Any repairs specified by this report or conducted on any of the leaded (Pb) surfaces identified in this report (See Table in Part IV, Sub-part A) should be documented on this report, attaching receipts to the report, maintaining dates, and any notes directly on the report. This report should be preserved and maintained with this dwelling. It will serve present and future homeowners/tenants with proper lead (Pb) disclosure as required by Title X, Section 1018 of Public Law 102-550.

Appendix D

Plastic Mini Blinds

Mini-blinds are normally constructed from metal, wood, or poly-vinyl chloride (PVC), a plastic product. Many of the PVC type, especially those imported from other countries, do contain lead, and often at very high levels. Manufacturers of PVC products often add a metal to the PVC to stabilize the chlorine in the plastic, and to provide a stiffener for the plastic. One of the less costly additives is lead acetate. This is the additive of choice most often used by third world countries, and the affected mini-blinds are then imported and normally sold at reduced prices in this country.

The ultra-violet light from the sun destabilizes the chlorine in the PVC. The metal helps slow this destabilizing process, but it still occurs. When the chlorine becomes destabilized chemically, it releases the metal, in this case lead, creating a dust on the surface of the mini-blinds.

CDSC, HUD and EPA paid for extensive tests at certified laboratories to show that imported vinyl mini-blinds could shed lead (Pb) dust above the federal action level, even "new" from the box, and that the lead dust levels would significantly increase over time with exposure to sunlight. HUD and EPA determined that the blinds are not a structural component of any dwelling (e.g. door, roof, floor, wall, etc.), and therefore are not to be considered a LBP "hazard" under Title X of the disclosure law.

In order to protect families from lead dust, REECON considers all vinyl blinds that contain lead levels at or above 0.5 mg/cm^2 lead to be a potential "hazard". Lead dust exposure on windowsills, baseboards, countertops, and floors can create a significant hazard for any young child, especially if the child is in the early stages of development. It is recommended that these blinds be discarded.

It is recommended that the homeowner/custodian use the following procedures to discard the plastic mini-blinds defined above:

(1) Place paper/plastic sheeting beneath the blinds on the floor;

(2) Gently collapse the blinds to the open position or top of the window; then

(3) Disconnect one end of the blinds;

(4) Place a large (yard-leaf) plastic bag over the blinds, completing the disconnection.

(5) Discard the floor covering (plastic/paper) into the plastic bag with the blinds.

(6) Wash with warm soapy water the interior sides of windows (both glass and frames), sills, top edges of baseboards, cupboards, countertops, children's toys, walls (beneath the blinds), and hard surface floors (out to approximately 2ft. from the wall, and 2ft. either side of the window).

(7) Rinse with warm water, and dry with paper towels.

(8) Discard cleaning supplies (towels, sponge, etc.) in the plastic bag with the blinds, and discard the bag into the trash.

(9) Do not throw the wash or rinse water out of doors. Pour wash and rinse water into sink, bathtub or shower drain, and rinse thoroughly. Any associated drapes, curtains, bedding, toys, etc. should be machine-washed or dry-cleaned. Discarding is recommended if washing is not practical.

(10) Finally, the carpets beneath the blinds (out to approximately 2ft. from the wall, and 2ft. either side of the window) should be steam cleaned.

Appendix E

Lead-Glazes in Ceramic Tiles

NOT A LEAD HAZARD—even though ceramic (or other types of) tiles may yield an XRF reading equal to or above the interim federal standard identifying lead-based paint, it is REECON's opinion, in consultation with the Region VI EPA toxic waste coordinator, that these tiles currently **DO NOT** present any lead "hazard".

During renovation, if these tiles are removed/replaced (broken-up), they can create a significant amount of lead (Pb) dust. Precautions should be taken during renovation/demolition to protect the workers, the inhabitants, and the dwelling itself. During renovation, when ceramic tiles may be disturbed, the amount of airborne lead dust can exceed OSHA respiratory Permissive Elevation (inhalation) Levels (PEL's), especially in confined spaces (e.g. closets, small bathrooms).

Ceramic tile has a baked-on glaze that is sufficiently durable to capture and hold any lead (Pb) within, so long as the glaze remains intact. The homeowner/custodian may limit his/her liability by making this report available to any contractor that attempts to remove/replace this tile. This will alert the contractor to follow the OSHA regulations with regard to PEL's. Additionally, the contractor should take ample precautions to prevent the spreading of any lead dust during tile removal throughout the home. These precautions should include:

- Sealing the affected rooms by closing doors and using plastic sheeting when necessary;
- Removing the tiles;
- Gathering the tile debris into plastic bags (prior to removal from the area); and
- Twice using a HEPA filtered vacuum on all exposed surfaces in the affected area, including ceilings, walls, floors, windows, door trim, baseboards, etc., prior to unsealing the area.

In order to repair any chipped or damaged tiles, the affected area should first be washed with warm, soapy water, rinsed, and then dried. These leaded tiles should only be cleaned with pH neutral or basic solutions (soaps, aqueous bleach, or common cleaners). Acid solutions, even mild ones, may eventually attack the glaze in these tiles, and therefore should not be used. Vinegar and water, if used enough times, may break down the glaze protecting the lead in these tiles, and therefore, should not be used.

Appendix F

Glossary of Terms

Abatement: A measure or set measures designed to permanently eliminate lead-based paint hazards or lead based paint. Abatement strategies include the removal of lead-based paint, encapsulation, replacement of building components coated with lead-based paint, removal of lead contamination dust, and removal of lead contamination soil or overlaying of soil with a durable covering such as Asphalt (grass and sod are considered interim control measures). All of these strategies require preparation, cleanup, waste disposal, post- Abatement clearance testing, record keeping, and if applicable, monitoring. See Also Complete Abatement and Interior Controls.

Accreditation: A formal recognition certifying that an organization, such as a laboratory, is competent to carry out specific tasks or type of tests.

Accuracy: The degree of agreement between an observed value and an accepted reference value (a "true" value), a data quality indicator. Accuracy includes a combination of random errors (precision) and systematic errors (bias) due to sampling an analysis.

Bare Soil: Soil not covered with grass, sod, some other similar vegetation, or paving, including the sand in sand boxed.

Building Component: Any element of a building that may be painted or have dust on its surface, e.g. walls, stairs, treads, floors, railings, doors, windowsills, etc.

Certification: The process of testing and evaluating against certain specifications the competence of a person, organization, or other entity in performing a function or service, usually for a specified period of time.

Certified: The designation for contractors who have completed training and other requirements to safely allow them to undertake risk assessments, inspections, or abatement work. Risk assessors, inspectors and Abatement Contractors should be certified by the appropriate local, State, or Federal agency.

Chewable Surface: See Chewed Surface

Chewed Surface: Any painted surface that shows evidence of having been chewed or mouthed by a young child. A chewed surface is usually a protruding, horizontal part of a building, such as an interior window sill.

Cleaning: The process of using a vacuum and wet cleaning agent to remove leaded dust, the process includes the removal of bulk debris from the work area. OSHA prohibits the use of compressed air to clean lead-contaminated dust from a surface.

Clearance Examination: Visual examination and collection of environmental samples by an inspector or risk assessor, or, in some circumstances, a Sampling Technician, and analysis by an accredited laboratory upon completion of an abatement project, interim control intervention, or maintenance job that disturbs lead-based paint (Or paint suspected of being lead-based). The clearance examination is performed to ensure that lead exposure levels do not exceed standards established by the EPA Administrator pursuant to Title IV of the toxic Substances Control Act, and that any cleaning following such work adequately meets those standards.

Common Area: A room or area that is accessible to all residents in a community (e.g. hallways or lobbies), in a general, any area not kept locked.

Composite Sample: A single sample made up of individual subsamples. Analysis of a composite sample produces the arithmetic mean of all subsamples.

Containment: A process to protect workers and the environment by controlling exposures to the lead contaminated dust and debris created during abatement.

Deteriorated lead-based paint: Any lead-based paint coating on a damaged or deteriorated surface or fixture, or any interior or exterior lead-based paint that is peeling, chipping, blistering, flaking, worn, chalking, alligatoring, cracking, or otherwise becoming separated from the substrate.
Disposal (of waste): The discharge, deposit, injection, dumping, spilling, leaking, or placement of solid or liquid waste on land or in water so that none of its constituents can pollute the environment by being emitted into the air or discharged into a body of water, including groundwater.
Environmental Intervention Blood-Lead Level (EIBL) Child: A child who has a blood lead level at or above 20 μg/dl (micrograms of lead per deciliter of blood) in a single test or at 15-19 μg/dl in two tests taken at least 3 months apart.
Encapsulation: Any covering or coating that acts as a barrier between lead-based paint and the environment, the durability of which relies on adhesion and the integrity of the existing bonds between multiple layers of paint and between the paint and the substrate. See also Enclosure.
Evaluation: Risk Assessment, paint inspection, reevaluation, investigation, clearance examination, or risk assessment screen.
Examination: See Clearance Examination
Federal Register (FR): A daily Federal publication that contains proposed and final regulations, rules and notices.
Impact surface: An interior or exterior surface (such as surfaces on doors) subject to damage by repeated impact or contact.
Inspection (of paint): A surface-by-surface investigation to determine the presence of lead-based paint. (In some cases, including dust and soil sampling) and a report of the results.
Interim Controls: A set measures designed to temporarily reduce human exposure or possible exposure to lead-based paint hazards. Such measures include specialized cleaning, repairs, maintenance, painting, temporary containment, and management and resident education programs. Monitoring, conducted by Owners, and reevaluations, conducted by professionals, are integral elements of interim control. Interim controls include dust removal, paint film stabilization, treatment of friction and impact surfaces, installation of soil coverings, such as grass or sod, and land use controls. See also Monitoring, Reevaluation and Abatement.
Interior Windowsill: The portion of the horizontal window ledge that protrudes into the interior of the room, adjacent to the window sash when the window is closed, often called the window stool.
Latex: A waterborne emulsion paint made with synthetic binders, such as 100 percent acrylic, vinyl acrylic, terpolymer, or styrene acrylic, a stable emulsion of polymers and pigment in water.
Lead: Lead includes metallic lead and inorganic compounds of lead.
Lead-Based Paint: Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm (milligrams of lead per square centimeter of surface) as measured by XRF or laboratory analysis (Local definitions may vary.)
Lead Based Paint Hazard: A condition in which exposure to lead from-contaminated dust, lead contaminated soil, or deteriorated lead-based paint would have an adverse effect on human health (as established by the EPA Administration under Title IV of the Toxic Substances Control Act). Lead-based paint hazards include, for example, deteriorate lead-based paint, leaded dust levels above applicable standards, and bare leaded soil above applicable standards.
Lead Based Paint Hazard Control: Activities to control and eliminate lead-based paint hazards, including interim controls, abatement, and complete abatement.
Lead Contaminated dust: Surface dust in residences that contain an area concentration of lead in excess of the standard established by the EPA. Administration, pursuant to Title IV of the Toxic Substances Control Act. EPA standards for leaded dust for risk assessments are 40 $\mu g/ft^2$ (micrograms of lead per square foot) on floors and 250 $\mu g/ft^2$ on interior window sills. The EPA

standards for clearance are 40 μg/ft^2 on floors, 250 μg/ft^2 on interior windowsills and 400 μg/ft^2 on window troughs. The recommended standard for lead hazard screens for floors is 25 μg/ft^2 and for windowsills is 125 μg/ft^2.

Lead Containment Soil: Bare soil on residential property that contains lead in excess of the standard established by the EPA Administrator, pursuant to Title IV of the Toxic Substances Control Act. The Standard is 400 ppm in play areas and gardens and 1200 ppm in the rest of the yard.

Leaded Dust: See Lead-contaminated dust.

Licensed: Holding a valid license or certification issued by EPA or by an EPA-approved State program to Title IV of the Toxic Substances Control Act. The license is based on certification for lead-based paint hazard control work. See also Certified.

Maintenance: Work intended to maintain adequate living conditions in a dwelling, which has the potential to disturb lead-based paint or paint that is suspected of being lead-based.

Mean: The arithmetic average of a series of numerical data values; for example, the algebraic sum of the data values divided by the data values.

Microgram (ug): 1/1,000,000 of a gram; used to measure weight.

Monitoring: Surveillance to determine (1) that known or suspected lead-based paint is not deteriorating; (2) that lead-based paint hazard controls, such as paint stabilization, enclosures, or encapsulation have not failed; and (3) that structural problems do not threaten the integrity of hazard controls or of known or suspected.

Owner: A person, firm, corporation, guardian, receiver, trustee, executor, government agency or entity, or other judicial officer who, alone or with others, owns, holds, or controls the freehold or leasehold title or part of the title to property, with or without actually possessing it. This definition includes a vendee who possesses the title but does not include a mortgagee or an Owner of a reversionary interest under a ground real lease.

Paint inspector: An individual who has completed training from an accredited program and been licensed or certified by the appropriate State or local agency to (1) perform inspections to determine and report the presence of lead-based paint on a surface-by-surface basis through onsite testing, (2) report the findings of such an inspection, (3) collect environmental samples for laboratory analysis, (4) perform clearance testing, and optionally (5) document successful compliance with lead-based paint hazard control requirements or standards.

Paint removal: An abatement strategy that entails the removal of lead-based paint from surfaces. For lead hazard control work, this can mean using chemicals, heat guns below 1,100° F, and certain contained abrasive methods. Open-flame burning, open-abrasive blasting, sandblasting, extensive dry scraping, and stripping in a poorly ventilated space using a volatile stripper are prohibited paint removal methods. Hydro blasting is not recommended.

Plastic: See Polyethylene plastic.

Polyethylene plastic: All references to polyethylene plastic refer to 6mil plastic sheeting or polyethylene bags (or doubled bags if using 4 mil polyethylene bags), or any other thick plastic material shown to demonstrate at least equivalent dust contaminated performance. Plastic used to contain waste should be capable of completely containing the waste and, after being properly sealed, should remain leak tight with no visible sign of discharge during movement or relocation.

Polyurethane: An exceptionally hard and wear-resistant coating (created by the reaction of polyols with a multifunctional isocyanate); often used to seal wood floors following lead-based paint hazard control work and cleaning.

Reevaluation: In lead hazard control work, the combination of a visual assessment and collection of environmental samples performed by a certified risk assessor to determine if a previously implemented lead-based paint hazard control measure is still effective and if the dwelling remains lead-safe.

Removal: See Paint removal.
Renovation: Work that involves construction and/or home or building improvement measures such as window replacement, weatherization, remodeling, and repainting.
Replacement: A strategy of abatement that entails the removal of building components coated with lead-based paint (such as windows, doors, and trim) and the installation of new components free of lead-based paint.
Resident: A person who lives in a dwelling.
Risk assessment: An onsite investigation of a residential dwelling to discover any lead-based paint hazards. Risk assessments include an investigation of the age, history, management, and maintenance of the dwelling, and the number of children under age 6 and women of childbearing age who are residents; a visual assessment; limited environmental sampling (i.e. collection of dust wipe samples, soil samples, and deteriorated paint samples); and preparation of a report identifying acceptable abatement and interim control strategies based on specific conditions.
Risk assessor: A certified individual who has completed training with an accredited training program and who has been certified to (1) perform risk assessments, (2) identify acceptable abatement and interim control strategies for reducing identified lead-based paint hazards, (3) perform clearance testing and reevaluations, and (4) document the successful completion of lead-based paint hazard control activities.
Site: The land or body of water where a facility is located, or an activity is conducted. The site includes adjacent land used in connection with the facility or activity.
Soil: See Bare soil.
Spectrum analyzer: A type of XRF analyzer that provides the operator with a plot of the energy and intensity, or counts of both K and L x-ray spectra, as well as a calculated lead concentration. See also XRF analyzer.
Standard deviation: A measure of the precision of a reading; the spread of the deviation from the mean. The smaller the standard of deviation, the more precise the analysis. The standard deviation is calculated by first obtaining the mean, or the arithmetic average, of all the readings. A formula is then used to calculate how much the individual values vary from the mean- the standard deviation is the square root of the arithmetic average of the squares of the deviation from the mean. Many hand calculators have an automatic standard deviation function. See also Mean.
Subsample: A representative portion of a sample. A subsample may be either a field sample or a laboratory sample. A subsample is often combined with other subsamples to produce a composite sample.
Substrate: A surface on which paint, varnish, or other coating has been applied or may be applied. Examples of substrates include wood, plaster, metal, and drywall.
Substrate effect: The radiation returned to an XRF analyzer by the paint, substrate, or underlying material, in addition to the radiation returned by any lead present. This radiation, when counted as lead x-rays by and XRF analyzer contributes to substrate equivalent lead (bias). The inspector may have to compensate for this effect when using XRF analyzers. See also XRF analyzer.
Target housing: Any residential unit constructed before 1978, except dwellings that do not contain bedrooms or dwellings that were developed specifically for the elderly or persons with disabilities unless a child younger than 6 resides or is expected to reside in the dwelling. In the case of jurisdictions that banned the sale or use of lead-based paint before 1978, the Secretary of HUD may designate an earlier date for defining target housing.
Test location: A specific area on a testing combination where XRF instruments will test for lead-based paint.

Trained: Successful completion of a training course in a particular discipline. For lead hazard control work, the training course must be accredited by EPA or by an EPA-approved State program, pursuant to Title IV of the Toxic Substances Control Act.
Treatment: In residential lead-based paint hazard control work, any method designed to control lead-based paint hazards. Treatment includes interim controls, abatement, and removal.
Trough: See Window trough.
Windowsill: See interior windowsill.
Window trough: For a typical double-hung window, the portion of the exterior windowsill between the interior windowsill (or stool) and the frame of the storm window. If there is no storm window, the window trough is the area that receives both the upper and lower window sashes when they are both lowered, sometimes inaccurately called the window "well".
Worker: An individual who has completed training in an accredited program to perform lead-based paint hazard control in housing.
Worksite: Any interior or exterior area where lead-based paint hazard control work takes place.
XRF analyzer: An instrument that determines lead concentration in milligrams per square centimeter (mg/cm^2) using the principle of x-ray fluorescence (XRF). Two types of field portable XRF analyzers are used- direct readers and spectrum analyzers. For this lead-based paint inspection, the term XRF analyzer only refers to portable instruments manufactured to analyze paint that have a HUD Performance Characteristic Sheet and are interpreted in accordance with the Performance Characteristic Sheet; it does not refer here to laboratory grade units or portable instruments designed to analyze soil.

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7832 Academy Trail NE
Albuquerque, NM 87109

Index	Time	Component	Substrate	Side	Condition	Color	Room	Results	PbC
1	2018-02-05 14:30								1.50 ± 0.00
2	**2018-02-05 14:31**						**CAL**	**Positive**	**1.20 ± 0.20**
3	**2018-02-05 14:32**						**CAL**	**Positive**	**1.10 ± 0.10**
4	**2018-02-05 14:33**						**CAL**	**Positive**	**1.10 ± 0.10**
5	2018-02-05 14:34	WINDOW	CONCRETE	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
6	2018-02-05 14:34	WINDOW	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.22
7	2018-02-05 14:35	DOOR	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.06
8	2018-02-05 14:35	WALL	DRYWALL	A	FAIR	WHITE	OFFICE	Negative	< LOD : 0.03
9	2018-02-05 14:36	WALL	DRYWALL	C	FAIR	WHITE	OFFICE	Negative	< LOD : 0.03
10	2018-02-05 14:36	DOOR	WOOD	C	FAIR	WHITE	OFFICE	Negative	< LOD : 0.57
11	2018-02-05 14:37	DOOR	WOOD	C	FAIR	WHITE	OFFICE	Negative	< LOD : 0.93
12	2018-02-05 14:37	WALL	CONCRETE	A	FAIR	WHITE	BATHROOM	Negative	< LOD : 0.03
13	2018-02-05 14:38	WALL	DRYWALL	A	FAIR	TAN	OFFICE	Negative	< LOD : 0.03
14	2018-02-05 14:39	DOOR	WOOD	B	FAIR	WHITE	OFFICE	Negative	< LOD : 0.12
15	2018-02-05 14:40	WALL	DRYWALL	A	FAIR	BROWN	OFFICE	Negative	< LOD : 0.03
16	2018-02-05 14:40	DOOR	WOOD	B	FAIR	WHITE	OFFICE	Negative	< LOD : 0.11
17	2018-02-05 14:41	WALL	DRYWALL	B	FAIR	WHITE	OFFICE	Negative	< LOD : 0.03
18	2018-02-05 14:41	DOOR	WOOD	B	FAIR	WHITE	OFFICE	Negative	< LOD : 0.14
19	2018-02-05 14:46	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.07
20	2018-02-05 14:46	WINDOW	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
21	2018-02-05 14:47	WALL	CONCRETE	B	FAIR	WHITE	HALL	Negative	< LOD : 0.21
22	2018-02-05 14:48	WALL	CONCRETE	C	FAIR	WHITE	HALL	Negative	< LOD : 3.22
23	2018-02-05 14:48	COLUMN	CONCRETE	C	FAIR	WHITE	HALL	Negative	< LOD : 0.11
24	2018-02-05 14:50	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
25	2018-02-05 14:50	WALL	CONCRETE	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.12
26	2018-02-05 14:51	WINDOW	METAL	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
27	2018-02-05 14:52	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
28	2018-02-05 14:52	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
29	2018-02-05 14:54	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.32
30	2018-02-05 14:55	CEILING	CONCRETE	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.14
31	2018-02-05 14:55	WINDOW	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
32	2018-02-05 14:56	WALL	CONCRETE	B	FAIR	WHITE	HALL	Negative	< LOD : 3.45
33	2018-02-05 14:57	WALL	CONCRETE	D	FAIR	TAN	HALL	Negative	< LOD : 0.08
34	2018-02-05 14:58	DOOR	WOOD	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.13
35	2018-02-05 14:58	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Null	< LOD : 0.06
36	2018-02-05 14:59	WINDOW	METAL	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
37	2018-02-05 15:00	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.33
38	2018-02-05 15:00	DOOR	WOOD	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.60
39	2018-02-05 15:00	WALL	CONCRETE	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
40	2018-02-05 15:03	DOOR	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.22
41	2018-02-05 15:04	DOOR	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.66
42	2018-02-05 15:04	WINDOW	CONCRETE	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
43	2018-02-05 15:05	DOOR	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.60
44	2018-02-05 15:06	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
45	2018-02-05 15:07	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
46	2018-02-05 15:07	WINDOW	CONCRETE	A	FAIR	WHITE	OUTSIDE	Null	< LOD : 1.71

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Index	Time	Component	Substrate	Side	Condition	Color	Room	Results	PbC
47	2018-02-05 15:08	WALL	CONCRETE	A	FAIR	WHITE	HALL	Negative	< LOD : 0.03
48	2018-02-05 15:09	WALL	CONCRETE	B	FAIR	WHITE	HALL	Negative	< LOD : 0.03
49	2018-02-05 15:09	COLUMN	CONCRETE	C	FAIR	WHITE	HALL	Negative	< LOD : 0.03
50	2018-02-05 15:10	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.12
51	2018-02-05 15:10	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Null	< LOD : 0.03
52	2018-02-05 15:12	DOOR	WOOD	C	FAIR	WHITE	BATHROOM	Negative	< LOD : 0.54
53	2018-02-05 15:13	WALL	CONCRETE	A	FAIR	WHITE	BATHROOM	Negative	< LOD : 0.03
54	2018-02-05 15:14	FLOOR	CONCRETE	LOWER	FAIR	TAN	BATHROOM	Negative	< LOD : 0.13
55	2018-02-05 15:14	CEILING	CONCRETE	UPPER	FAIR	WHITE	BATHROOM	Negative	< LOD : 0.18
56	2018-02-05 15:16	DOOR	WOOD	A	FAIR	WHITE	HALL	Negative	< LOD : 0.62
57	2018-02-05 15:16	DOOR	WOOD	A	FAIR	WHITE	HALL	Negative	< LOD : 1.07
58	2018-02-05 15:17	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.45
59	2018-02-05 15:18	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.12
60	2018-02-05 15:20	DOOR	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
61	2018-02-05 15:20	DOOR	WOOD	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.30
62	2018-02-05 15:21	WINDOW	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
63	2018-02-05 15:22	WALL	CONCRETE	B	FAIR	WHITE	HALL	Negative	< LOD : 0.03
64	2018-02-05 15:22	WALL	CONCRETE	D	FAIR	WHITE	HALL	Negative	< LOD : 0.03
65	2018-02-05 15:23	DOOR	WOOD	D	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.35
66	2018-02-05 15:24	WALL	CONCRETE	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
67	2018-02-05 15:24	WALL	CONCRETE	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
68	2018-02-05 15:26	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.56
69	2018-02-05 15:26	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
70	2018-02-05 15:27	WALL	CONCRETE	D	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
71	2018-02-05 15:29	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
72	2018-02-05 15:30	WINDOW	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
73	2018-02-05 15:30	WINDOW	CONCRETE	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
74	2018-02-05 15:31	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.14
75	2018-02-05 15:32	WALL	CONCRETE	B	FAIR	WHITE	HALL	Negative	< LOD : 0.03
76	2018-02-05 15:32	WALL	CONCRETE	D	FAIR	WHITE	HALL	Negative	< LOD : 0.03
77	2018-02-05 15:34	DOOR	WOOD	A	FAIR	WHITE	HALL	Negative	< LOD : 0.03
78	2018-02-05 15:35	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
79	2018-02-05 15:36	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
80	2018-02-05 15:36	WALL	CONCRETE	D	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
81	2018-02-05 15:37	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.82
82	2018-02-05 15:37	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
83	2018-02-05 15:38	WALL	CONCRETE	D	FAIR	WHITE	BEDROOM	Null	< LOD : 0.03
84	2018-02-05 15:40	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.11
85	2018-02-05 15:40	WINDOW	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 3.20
86	2018-02-05 15:41	WALL	METAL	B	FAIR	WHITE	HALL	Negative	< LOD : 0.10
87	2018-02-05 15:42	WALL	METAL	D	FAIR	WHITE	HALL	Negative	< LOD : 1.98
88	2018-02-05 15:43	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.12
89	2018-02-05 15:43	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
90	2018-02-05 15:43	WALL	CONCRETE	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
91	2018-02-05 15:45	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.04
92	2018-02-05 15:45	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03

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Index	Time	Component	Substrate	Side	Condition	Color	Room	Results	PbC
93	2018-02-05 15:46	WALL	CONCRETE	D	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
94	2018-02-05 15:48	DOOR	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
95	2018-02-05 15:48	WINDOW	METAL	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
96	2018-02-05 15:49	WINDOW	CONCRETE	A	FAIR	WHITE	OUTSIDE	Negative	< LOD : 0.03
97	2018-02-05 15:50	WALL	CONCRETE	B	FAIR	WHITE	HALL	Negative	< LOD : 0.35
98	2018-02-05 15:50	WALL	CONCRETE	D	FAIR	WHITE	HALL	Negative	< LOD : 0.11
99	2018-02-05 15:51	DOOR	WOOD	A	FAIR	WHITE	HALL	Negative	< LOD : 0.52
100	2018-02-05 15:52	DOOR	WOOD	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.28
101	2018-02-05 15:52	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
102	2018-02-05 15:53	WALL	CONCRETE	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.22
103	2018-02-05 15:54	DOOR	WOOD	C	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.05
104	2018-02-05 15:54	WALL	CONCRETE	A	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
105	2018-02-05 15:55	WALL	CONCRETE	B	FAIR	WHITE	BEDROOM	Negative	< LOD : 0.03
106	2018-02-05 15:57	DOOR	WOOD	A	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.71
107	2018-02-05 15:57	DOOR	WOOD	A	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.36
108	2018-02-05 15:58	DOOR	WOOD	A	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.75
109	2018-02-05 15:58	WINDOW	CONCRETE	B	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.03
110	2018-02-05 15:59	WINDOW	CONCRETE	C	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.03
111	2018-02-05 15:59	DOOR	WOOD	C	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.75
112	2018-02-05 16:01	DOOR	WOOD	D	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.60
113	2018-02-05 16:02	WINDOW	CONCRETE	C	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.03
114	2018-02-05 16:03	WINDOW	CONCRETE	C	FAIR	WHITE	KITCHEN	Negative	< LOD : 0.03
115	**2018-02-05 16:05**						**CAL**	**Positive**	**1.10 ± 0.10**
116	**2018-02-05 16:05**						**CAL**	**Positive**	**1.20 ± 0.10**
117	**2018-02-05 16:06**						**CAL**	**Positive**	**1.10 ± 0.10**

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

Lower Dorm Health Center

Lower Dorm Health Center

Calliope Exterior Front

Calliope Lower Dorm

Calliope Hall

10 Calliope

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

10 Calliope

A10 Calliope

A10 Calliope

Clio Lower Dorm

Clio Exterior Front

Clio Hall

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

B16 Clio

B16 Clio

23 Clio

23 Clio

Erato Lower Dorm

Erato Exterior Front

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Euterpe Lower Dorm

Euterpe Exterior Front

Euterpe Hall

14 Euterpe

14 Euterpe

Euterpe Men's Room

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

Euterpe Men's Room

Euterpe Hall

23 Euterpe

23 Euterpe

Polyhymnia Lower Dorm

Polyhymnia Exterior Front

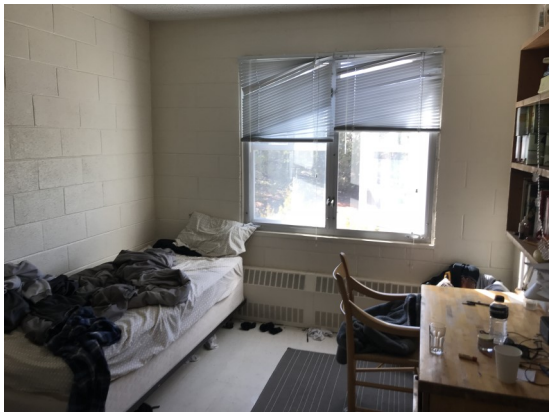
St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

Polyhymnia Hall

11 Polyhymnia

11 Polyhymnia

23 Polyhymnia



23 Polyhymnia

Terpsichore Lower Dorm

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

Terpsichore Exterior Front

Terpsichore Hall

Terpsichore Hall

21A Terpsichore

21A Terpsichore

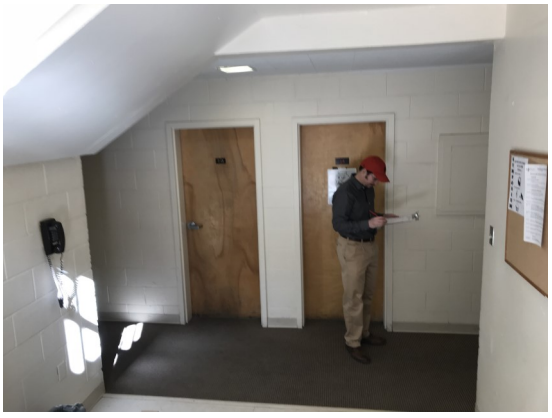
22 Terpsichore

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

22 Terpsichore

Thalia Lower Dorm

Thalia Exterior Front



Thalia Hall

15 Thalia

15 Thalia

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

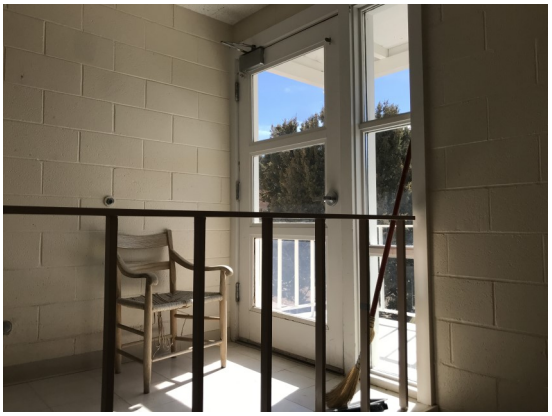
21A Thalia

21A Thalia

Urania Lower Dorm

Urania Exterior Front

Urania Hall



Urania Hall

St John's College, 1160 Camino Cruz Blanca, Santa Fe, NM—PPI

G14 Urania

G14 Urania

26A Urania

26A Urania

Lower Dorm Commons

Lower Dorm Commons

Performance Characteristic Sheet

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

MANUFACTURER AND MODEL:

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

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

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

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

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

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive)

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

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

SUBSTRATE CORRECTION:

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

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

INCONCLUSIVE RANGE OR THRESHOLD:

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

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

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

OPERATING PARAMETERS:

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

SUBSTRATE CORRECTION VALUE COMPUTATION:

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

EVALUATING THE QUALITY OF XRF TESTING:

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

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

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

Compute the Retest Tolerance Limit by the following steps:

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

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

Square the average for each testing combination.

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

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

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

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

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

Compute the average of all ten original XRF results.

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

Find the absolute difference of the two averages.

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

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

TESTING TIMES:

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

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

CLASSIFICATION RESULTS:

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

DOCUMENTATION:

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

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

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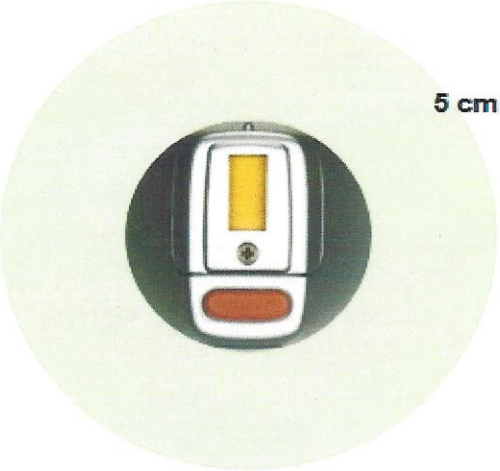
Thermo Scientific Portable XRF Analyzers Isotope Radiation Survey Certificate

Instrument Model:	XLp
Instrument S/N:	96582

Detector Model:	RadEye B20
Detector S/N:	240
Calibration Date:	10/30/2014



Dose rate (µrem/hr)* (100.0 µrem = 0.1 mrem = 1.0 µSv)	
Background	5 cm
10	0

*All recorded measurements are net above back ground.

• Dose rate measurements taken at 360°perpendicular to instrument with the shutter closed (i.e., sources in the shielded position.

** The survey results indicate that the dose rate does not exceed 0.05 milirem per hour at any point 5 cm [< 50 µrem/hr at 5 cm] from the surface of the device.

Conducted by: Mike Couture **Survey Date:** 8/27/2015

Thermo Scientific 2 Radcliff Road Tewksbury MA 01876 +1 978-670-7460 www.thermoscientific.com/pai
Portable Analytical Instruments USA +1 978-670-7430 fax 800-875-1578 (toll free)

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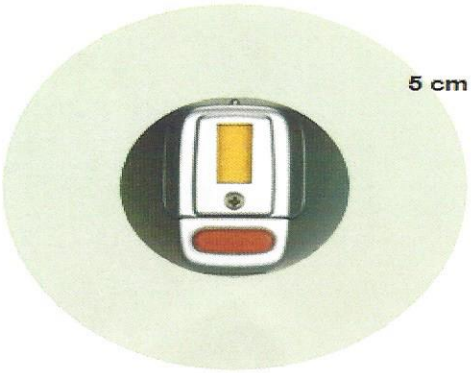
Thermo Scientific Portable XRF Analyzers

Instrument Model:	XLp 300A
Instrument S/N:	96582

Detector Model:	RADEYE
Detector S/N:	0244
Calibration Date:	12/11/2014



Dose rate (µrem/hr)* (100.0 µrem = 0.1 mrem = 1.0 µSv)	
Background	5 cm
10	0

*All recorded measurements are net above background.

• Dose rate measurements taken at 360°perpendicular to instrument with the shutter closed (i.e., sources in the shielded position.)

** The survey results indicate that the dose rate does not exceed 0.05 milirem per hour at any point 5 cm [< 50 µrem/hr at 5 cm] from the surface of the device.

Conducted by: Ralph Badger **Survey Date:** 10/27/2015

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Document # 140-00063 Rev B

ThermoFisher SCIENTIFIC

Certificate of Calibration

Paint QC Sheet
Document#: FRM018
Revision: D
Revision Date: November 20, 2006

Serial Number:	96582	Model: **Niton**	XLp-300A	Software:	5.2F-Dual	Date of Q.C.:	8/28/2015
Resolution:	421	Escale:	4.43	Source:	cd-109	Inspector:	Lam

K+L 20 Sec Readings

Std	L	Lerr	K	Kerr	DI	L Status	K Status
1.0 Surface Wood-1	1.10	0.10	1.00	0.40	1.1	OK	OK
1.0 Surface Wood-2	1.00	0.10	1.00	0.40	1.0	OK	OK
1.0 Buried Wood-1	1.00	0.10	0.90	0.40	2.3	OK	OK
1.0 Buried Wood-2	1.20	0.10	1.00	0.40	2.5	OK	OK
Blank Wood-1	0.01	0.02	-0.09	0.31	1.1	OK	OK
Blank Wood-2	0.01	0.02	0.01	0.31	2.1	OK	OK
3.5 Surface Wood-1	3.50	0.20	3.20	0.50	1.2	OK	OK
3.5 Surface Wood-1	3.50	0.20	3.50	0.50	1.2	OK	OK
0.3 Surface Concrete-1	0.30	0.03	0.40	0.50	1.0	OK	OK
0.3 Surface Concrete-2	0.30	0.03	0.20	0.49	1.0	OK	OK
Steel-1	0.06	0.07	0.07	0.53	10.0	OK	OK
Steel-2	0.07	0.08	-0.17	0.52	10.0	OK	OK
Pure Pb-1	10.10	3.80	81.90	2.50	1.7	OK	OK
Pure Pb-2	10.10	2.30	83.10	2.50	1.7	OK	OK
1.0 Surface Drywall-1	1.00	0.10	0.90	0.40	1.1	OK	OK
1.0 Surface Drywall-2	1.00	0.10	0.80	0.40	1.1	OK	OK

K+L 20 Sec Readings

Std	Time	Result	
Drywall-1	3.09	0.01	OK
Drywall-2	3.08	0.00	OK
French Plaster-1	2.47	0.00	OK
French Plaster-2	1.86	0.00	OK

This certificate is issued in accordance with Thermo Fisher Scientific factory specifications.
The measurements were found to be within specification limits at the time of manufacture and calibration.

Standards are traceable to National Institute of Standards & Technology (NIST) standards.

Signed:

Keith MacKenzie
Quality Manager

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ThermoFisher SCIENTIFIC

Certificate of Calibration

Paint QC Sheet
Document#: FRM018
Revision: D
Revision Date: November 20, 2006

Serial Number:	96582	Model: **Niton**	XLp 300A	Software:	5.2F-Dual	Date of Q.C.:	10/27/2015
Resolution:	425	Escale:	4.43	Source:	Cd-109	Inspector:	AP

K+L 20 Sec Readings

Std	L	Lerr	K	Kerr	DI	L Status	K Status
1.0 Surface Wood-1	1.00	0.10	1.00	0.40	1.0	OK	OK
1.0 Surface Wood-2	1.00	0.10	1.00	0.40	1.1	OK	OK
1.0 Buried Wood-1	1.10	0.10	0.90	0.40	2.5	OK	OK
1.0 Buried Wood-2	1.10	0.10	0.90	0.40	2.5	OK	OK
Blank Wood-1	0.01	0.02	0.09	0.31	1.6	OK	OK
Blank Wood-2	0.01	0.02	0.16	0.31	1.3	OK	OK
3.5 Surface Wood-1	3.40	0.20	3.30	0.50	1.2	OK	OK
3.5 Surface Wood-1	3.40	0.20	3.70	0.50	1.2	OK	OK
0.3 Surface Concrete-1	0.30	0.03	0.23	0.49	1.1	OK	OK
0.3 Surface Concrete-2	0.30	0.03	0.25	0.49	1.1	OK	OK
Steel-1	0.06	0.08	-0.12	0.50	10.0	OK	OK
Steel-2	0.03	0.05	0.07	0.50	9.6	OK	OK
Pure Pb-1	10.10	2.00	83.90	2.50	1.7	OK	OK
Pure Pb-2	10.10	1.70	82.70	2.40	1.7	OK	OK
1.0 Surface Drywall-1	1.00	0.10	1.30	0.40	1.0	OK	OK
1.0 Surface Drywall-2	1.00	0.10	1.40	0.40	1.1	OK	OK

K+L 20 Sec Readings

Std	Time	Result	
Drywall-1	2.83	0.00	OK
Drywall-2	1.71	0.01	OK
French Plaster-1	2.28	0.00	OK
French Plaster-2	2.27	0.00	OK

This certificate is issued in accordance with Thermo Fisher Scientific factory specifications.
The measurements were found to be within specification limits at the time of manufacture and calibration.

Standards are traceable to National Institute of Standards & Technology (NIST) standards.

Signed:

Keith MacKenzie
Quality Manager

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SEALED SOURCE LEAK TEST CERTIFICATE

Certificate # : **3179**

LEAK TEST LABORATORY INFORMATION			
COMPANY NAME	THERMO SCIENTIFIC PORTABLE ANALYTICAL INSTRUMENTS		
LICENSE NUMBER	MASSACHUSETTS 55-0238	CONTACT NAME/RSO	JAMES BLUTE
ADDRESS	2 RADCLIFF ROAD	CONTACT NUMBER	978-670-7460
	TEWKSBURY MA 01876	FAX NUMBER	978-513-3504

A copy of certificate should be maintained for a minimum of 3 years and for inspection by the regulatory agency.

SAMPLE KIT INFORMATION

Sample ID # : N-2867

Sample date : 8/24/2015

SEALED SOURCE INFORMATION

Manufacturer :	Eckert & Ziegler
Source model :	XFB-3
Source serial number :	TR3454
Radioisotope :	Cd-109
Assay Date :	9/1/2015
Activity (mCi) :	40

DEVICE/ANALYZER INFORMATION

Device make :	Thermo Scientific Portable XRF Analyzers
Device model :	XLp
Serial number :	96582

LEAK TEST RESULT:

Analysis of the above sample kit on date **8/24/2015** yield the following result:

☑ The analysis of the radioactive material of this leak test sample indicated the activity present is less than 0.005 uCi (or 185 Bq). The source may be used as authorized.

☐ Statistical analysis of the radioactive count data of this leak test sample indicated the activity present is greater than 0.005 uCi (or 185 Bq). This source should be considered leaking. Consult your device operations procedure; place this source in storage or quarantine area and make the required notification to your regulatory agency.

DEVICE/SOURCE LEAK TEST IS DUE ON OR BEFORE 2/24/2016

Leak test performed by: Ralph Badger

Certified by: James Blute, RSO

Date: 8/24/2015

United States Environmental Protection Agency

This is to certify that

Scott Robert Knowles

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

New Mexico

This certification is valid from the date of issuance and expires April 02, 2018

NM-R-7065-5

Certification #

October 27, 2014

Issued On

for Adrienne Priselac, Manager, Toxics Office

Land Division