DEKD environmental
Asbestos, Lead, IAQ, and Mold
Testing & Consulting Services
P.O. Box 240014 San Antonio, TX, 78224 210.370.7655

**Federal law (24 CFR part 35 and 40 CFR part 745) requires sellers and lessors of residential units constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than six years of age resides or is expected to reside in such housing) or any zero-bedroom dwelling, to disclose and provide a copy of this report to new purchasers or lessees before they become obligated under a lease or sales contract. Property owners and sellers are also required to distribute an educational pamphlet approved by the United States Environmental Protection Agency and include standard warning language in leases or sales contracts to ensure that parents have the information they need to protect children from lead-based paint hazards.**

# Visual Assessment, Lead-Based Paint Inspection

**112 Armour Place**
**San Antonio, Texas 78212**
**Date of Inspection: October 16, 2024**

**Lead Risk Assessor**
***Dyna Salahuddin***
***License #2071218***
***Exp. 02/20/2026***

TABLE OF CONTENTS

**January 5, 2025**

**Re:** Lead-Based Paint (LBP) Inspection Report:

**112 Armour Place**
**San Antonio, Texas 78212**

Dear Maru Chung:

Please find enclosed the limited lead inspection report for the single-family home located at 112 Armour Place, San Antonio, Texas. The X-Ray Fluorescence (XRF) survey was performed within the current acceptable industry guidelines, Housing and Urban Development (HUD) Guidelines Chapter 7 (revised 2012) and Texas Regulations. However, the inspection of interior areas was limited to client specified areas.

**On October 16, 2024, according to the XRF readings, it has been determined that there is deteriorated lead-based paint (LBP) at concentrations at or above 1.0 mg/cm$^2$.**

DEKD Environmental Testing & Consulting, LLC (DEKD) used a Viken Pb200i (XRF) serial# 2560 with a Co-57 sourced in June 2022 to sample paint for lead-based paint at the property.

Texas Licensed Lead Risk Assessor, Dyna Salahuddin (*License number: 2071218 - Expiration date: February 20, 2026*) performed the inspection.

DEKD can provide risk assessments and project designs for the removal, stabilization, or enclosure of areas with lead-based paint. If you have any questions or concerns regarding this report, please feel free to contact us at (210) 370-7655.

Sincerely,

**Dyna Salahuddin, REM, CIEC**
Lead Risk Assessor
(210) 202-9850

## II. EXECUTIVE SUMMARY

DEKD has been authorized by Maru Chung, to perform a lead-based paint (LBP) evaluation test at the single-family residence located at 112 Armour Place, San Antonio, Texas. All painted and/or finished components were evaluated according to the specifications described in the protocols for LBP inspections in the Housing and Urban Development (HUD) Guidelines Chapter 7 (revised 2012) and all applicable federal, state, and local regulations.

According to the HUD guidelines, a lead reading by XRF analyzer of 1.0 mg/cm$^2$ or above, or laboratory analysis of paint in excess of 0.5% by weight is considered positive for the presence of LBP. The state of Texas also uses an action level of 1.0 mg/cm$^2$. This action level will be referenced throughout the report.

Components having lead levels at or above the action level are visually assessed for condition and approximate surface area. Those LBP surfaces found to be in intact condition at the time of inspection do not require paint stabilization but should be monitored on an ongoing basis. This report will only identify LBP surfaces identified as deteriorated at the time of the inspection for paint stabilization.

During the evaluation, interior XRF testing was limited to the areas the client specified and a complete inspection was not performed The XRF testing was conducted using a Viken Pb200i (XRF) serial# 2560 lead paint analyzer. A surface-by-surface visual assessment of the painted and/or finished surfaces was conducted to determine which lead-coated surfaces/components are deteriorated at or above de minimis levels.

**DEKD has determined that there is deteriorated LBP at or above de minimis levels at the property.**

Because of the deteriorated paint identified on the property, DEKD collected three soil samples from around the home and none of the soil samples were above the current HUD standard of 400 PPM (parts per million) for play areas and 1200 PPM for building perimeters. The laboratory report for the soil samples is attached.

## III. SCOPE OF INSPECTION

### A. Building Background

The single-family property located at 112 Armour Place, San Antonio, Texas is approximately 2000 square feet and was built in 1926, in Bexar County.

### B. Preface

DEKD was authorized by Maru Chung to perform lead-based paint testing of the above referenced home to determine the possible presence, condition, location and amount of lead paint. The testing was conducted on October 16, 2024.

### C. Training

All inspectors utilized by DEKD have EPA/State licensure and are licensed Lead Risk Assessors, or Inspectors who have passed the "HUD Visual Assessment Course". All technicians utilized by DEKD have also been trained in the use, calibration and maintenance of the XRF equipment they currently use, along with necessary principles of Radiation Safety.

### D. Equipment

A Viken Pb200i (XRF) lead paint analyzer, serial # 2560, was used on this inspection.

### E. Inspection Company

The inspection was performed by an inspector employed by DEKD Environmental Testing & Consulting, LLC, 7411 Barlite Blvd #240014, San Antonio, Texas 78224, telephone number (210) 951-0227.

### F. Methods

The calibration of the Viken Pb200i (XRF) is done in accordance with the Performance Characteristic Sheet (PCS) for this instrument. These XRF instruments are calibrated using a calibration standard block of known lead content. Six calibration readings are taken before and after each property is tested to ensure manufacturer's standards are met. If the inspection is longer than 4 hours, a set of 6 calibration readings must be taken before the 4 hours expires, and then an additional six calibration readings taken at the end of the inspection. If for any reason the instruments are not maintaining a consistent calibration reading within the manufacturer's standards for performance on the calibration block supplied by the manufacturer, manufacturer's recommendations are used to bring the instrument into calibration. If the instrument cannot be brought back into calibration, it is taken off the site and sent back to the manufacturer for repair and/or re-calibration.

## G. Findings

**112 Armour Place**
**San Antonio, Texas 78212**

**Summary and Distribution Table**

| | |
|---|---|
| Number of Positives | 12 |
| Total number of Readings | 53 |
| Percent Positive | 22.64% |

**Interior Components**
***There were no tested window components that were positive for LBP***

**Exterior Components**

| Reading Number | Concentration mg/cm$^2$ | Side | Room | Component | Feature | Substrate | Condition | Color |
|---|---|---|---|---|---|---|---|---|
| 52 | 1.2 | A | Garage | Wall | Siding | Wood | Det | Beige |
| 55 | 1.5 | D | Garage | Wall | Siding | Wood | Det | Beige |

**Note. Deteriorated Condition**

| | | | |
|---|---|---|---|
| **112 C** | **Side D Garage** | **13.6** | **400 ppm** |

ACCURATE ANALYTICAL TESTING LLC

**30105 Beverly Road**
**Romulus, MI 48174**
**Ph: 734-629-8161; Fax: 734-629-8431**

# Certificate of Analysis: Lead In Soil by EPA SW-846 7000B and 3050B Method*

**Client :** DEKD Environmental
7411 Barlite Blvd. 240014
San Antonio, TX 78224
**Attn :** Dyna Salahuddin **Email :** dyna@210dekdenterprises.com
**Phone :** 210-202-9850 **Fax :**

**Client Project :** 101624385

**Project Location :** 112 ARMOUR PLACE

**AAT Project :** 1080752
**Sampling Date :** 10/16/2024
**Date Received :** 10/17/2024
**Date Analyzed :** 10/17/2024
**Date Reported :** 10/17/2024

| Lab Sample ID | Client Code | Sample Description | Results Lead µg/g (PPM) | Calculated RL µg/g * |
|---|---|---|---|---|
| 9836984 | 112C | GARAGE | 13.6 | 8.68 |

Analyst Signature

Alexis Pheeney

ND = Not Detected, N/A = Not Available, RL = Reporting Limit. For true values assume (3) significant figures. The method and batch QC are acceptable unless otherwise stated. Current EPA/HUD Interim Standard for soil samples are: 400 PPM (parts per million) for play area's, 1200 PPM for building Perimeter and 1000 PPM for California Building Perimeters. AAT internal sop S218. The laboratory operates in accord with ISO 17025 guidelines and holds limited scopes of accreditation under AIHA-LAP and NY State DOH ELAP programs. These results are submitted pursuant to AAT LLC current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. Analytical results relate to the samples as received by the lab. AAT will not assume any liability or responsibility for the manner in which the results are used or interpreted. Reproduction of this document other than in its entirety is not permitted. AAT does not blank correct reported values. Sample data apply only to items analyzed. Samples are stored for 15 days following report date. *= Validated modified method

AIHA LAP- Lab ID #100986, NY State DOH ELAP -Lab ID #11864, State of Ohio- Lab ID # 10042

ACCURATE ANALYTICAL TESTING LLC

**30105 Beverly Road**
**Romulus, MI 48174**
**Ph: 734-629-8161; Fax: 734-629-8431**

**To :** DEKD Environmental
7411 Barlite Blvd. 240014
San Antonio, TX 78224

**Attn :** Dyna Salahuddin

**Email :** dyna@210dekdenterprises.com
**Phone :** 210-202-9850

**Project Location :** 112 ARMOUR PLACE

**AAT Project :** 1080752
**Client Project :** 101624385
**Date Reported :** 10/17/2024

| Sample | Client Code | Analysis Requested | Completed | Analyst |
|---|---|---|---|---|
| 9836984 | 112C | Lead Soil | 10/17/2024 | Alexis Pheeney |

**Reviewed By** Elyse Bidle
Quality Assurance Coordinator

## H. Conclusions

**The above listed components were determined to be positive for lead paint, as defined by Environmental Protection Agency/Department of Housing and Urban Development (EPA/HUD) as containing lead in concentrations greater than or equal to 1.0 mg/cm$^2$.**

When evaluating this report, it is assumed that according to Chapter 7 HUD guidelines, that if one testing combination (i.e., window, door) is positive for lead in an interior or exterior room equivalent, that all other similar testing combinations in those areas are assumed to be positive. The same is true for negative readings. All inaccessible areas are assumed to be positive, even though they were not able to be tested. Inaccessible areas are noted in Scope of Inspection, Section G. Findings.

Given that the lead evaluation results indicate the presence of lead-based paint, the prospective owner may wish to obtain, at the prospective owner's expense, additional services of a lead-based paint risk assessor, certified for the State in which the property is located, to help understand the positive results. This person would review this report and might make additional recommendations about lead hazard control actions. Interpretations and possible actions may vary when only a few readings indicate the presence of lead-based paint.

If there were a small number of results with positive lead-based paint, the prospective owner may need to obtain additional services from a lead-based paint risk assessor to help explain how to limit the number of positive findings in developing the paint stabilization plan that would result in the reduction of risk.

This inspection was done in accordance with Lead Safe Housing Rule 24 CFR Part 35 subpart F as amended June 21, 2004. The surface conditions ranged from intact to poor at the time of the inspection. In compliance with "HUD's Final Rule", you will need to reduce potential hazards by stabilizing all deteriorated lead-based paint in housing built before 1978, unless the property is exempt. Upon completion of paint stabilization activities, HUD requires a clearance examination to determine that the paint stabilization efforts were performed adequately. Paint stabilization means to repair any defect in the substrate, or any defect in a building component, that is causing the paint deterioration, to remove all loose paint and other loose material from the surface to be treated utilizing lead-safe work practices, and to apply a new protective coating or paint.

The Final Rule specifies who can perform paint stabilization of deteriorated surfaces. The repair contractor must either be supervised by a certified lead paint abatement supervisor, or successfully complete one of several courses approved by HUD. A list of contractors who are under the supervision of a certified lead paint abatement supervisor can be located

from the State or EPA Lead Control Office. Contractors who are also able to perform the work must be able to document that they have successfully completed a qualifying course. Examples of such courses follow:

1. An accredited lead abatement supervisor course.
2. An accredited lead-based paint worker course.
3. "The Lead-Based Paint Maintenance Training Program" developed by the National Environmental Training Association for EPA and HUD.
4. "The Remodeler's and Renovator's Lead-Based Paint Training Program" prepared by HUD and the National Association of the Remodeling Industry (NARI).
5. Any course approved by HUD after consultation with EPA for this purpose.

The management company will determine, with HUD, whether lead hazard reduction will be performed at the property.

A Clearance Examination will include a visual evaluation of all surfaces that were determined to be defective during the initial inspection, and collection of dust samples. It should be determined that the deteriorated paint surfaces have been eliminated and that no settled dust lead hazards exist in the dwelling or unit. The clearance report must be signed by a certified/Licensed Lead Inspection/Risk Assessor.

Clearance testing will be performed on the homes that were determined to have deteriorated lead-based paint above the de minimis levels (2 square feet or 10% of a component with a small surface area, such as interior windowsills, baseboards and trim, or 20 square feet on exterior surfaces), as per the Scope of Work.

However, some painted surfaces may contain levels of lead below 1.0 $mg/cm^2$, which could create lead dust or lead-contaminated soil hazards if the paint is turned into dust by abrasion, scraping, or sanding. If conditions of intact paint surfaces become destabilized, these conditions will need to be monitored in the future. If any construction or modernization work is done on the premises, this report should be given to the contractors as well as the tenants.

## I. Soil Sample Location

# IV. DISCLOSURE RESPONSIBILITY AND DISCLAIMER

## Disclosure Responsibility

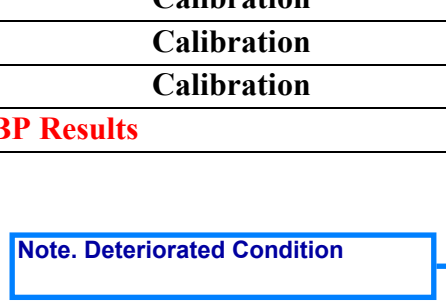
A copy of this report must be provided to new lessees (tenants) and purchasers of this property under Federal Law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords (lessors) and sellers are also required to distribute an educational pamphlet and include standard warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.

The Occupational Safety and Health Administration (OSHA) Lead in Construction Standard states that "negative" readings (i.e., those below the HUD/EPA definition of what constitutes LBP [1.0 $mg/cm^2$]) **do not** relieve contractors from performing exposure assessments (personal air monitoring) on their employees per the OSHA Lead Standard and should not be interpreted as lead free. Although a reading may indicate "negative", airborne lead concentrations still may exceed the OSHA Action Level or the OSHA Permissible Exposure Limit (PEL) depending on the work activity.

## Disclaimer

This is our report of a visual survey, and X-Ray Fluorescence (XRF) analysis of the readily accessible areas of this building and tested components. The presence or absence of lead-based paint or lead-based paint hazards applies only to the tested or assessed surfaces on the date of the field visit and it should be understood that conditions noted within this report were accurate at the time of the inspection and in no way, reflect the conditions at the property after the date of the inspection.

| Reading Number | Concentration mg/cm2 | Result | Side | Room | Component | Feature | Substrate | Condition | Color |
|---|---|---|---|---|---|---|---|---|---|
| 51 | 0.1 | Negative | A | Gar-Ext | Door | | Wood | Det | Beige |
| 52 | 1.2 | Positive | A | Gar-Ext | Wall | Siding | Wood | Det | Beige |
| 53 | 0.5 | Negative | A | Gar-Ext | Door | | Wood | Det | Beige |
| 54 | 0.5 | Negative | A | Gar-Ext | Door | | Wood | Det | Beige |
| 55 | 1.5 | Positive | D | Gar-Ext | Wall | Siding | Wood | Det | Beige |
| 56 | 0.2 | Negative | D | Gar-Ext | Wall | Siding | Wood | Det | Beige |
| 57 | 1.1 | Positive | Calibration | | | | | | |
| 58 | 1.1 | Positive | Calibration | | | | | | |
| 59 | 1.2 | Positive | Calibration | | | | | | |
| Positive LBP Results | | | | | | | | | |

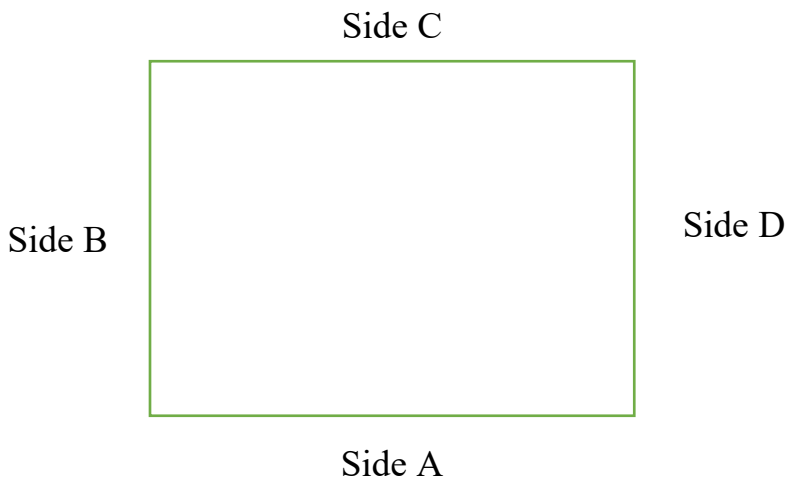


**Inspection Date: October 16, 2024**

**112 Armour Place**
**San Antonio, Texas 78212**

**Report Date: January 5, 2025**
**Action level: 1.0 mg/cm$^2$**
**Project No: DE-101624386**

**Total Readings: (53) Actionable (12)**

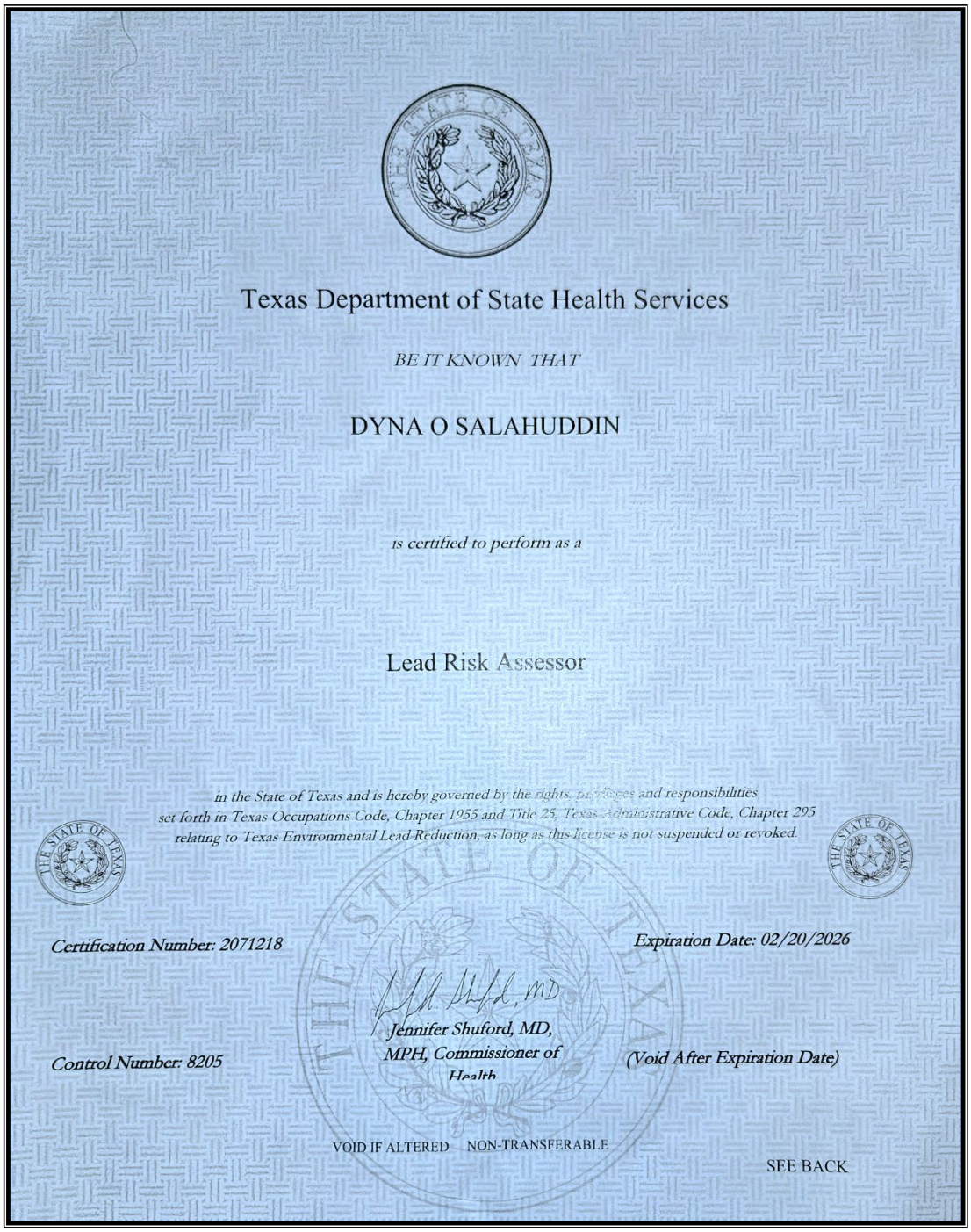



N/A applies to ceilings and floors

Intact: Entire surface area is judged to be intact. Intact surfaces may or may not have been tested and need only monitoring.

DET-Deteriorated: shows signs of abrasion and/or is peeling, chipping, chalking, or cracking, or otherwise damaged or separated from the substrate.

# VI. CERTIFICATIONS



Texas Department of State Health Services

*BE IT KNOWN THAT*

DYNA O SALAHUDDIN

*is certified to perform as a*

Lead Risk Assessor

*in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295 relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.*

*Certification Number: 2071218*

*Expiration Date: 02/20/2026*

*Jennifer Shuford, MD, MPH, Commissioner of Health*

*Control Number: 8205*

*(Void After Expiration Date)*

VOID IF ALTERED NON-TRANSFERABLE

SEE BACK

# Certificate of Training

Dyna Salahuddin

Has completed the Viken Detection Corporation training materials presented on the topic of Instrument Operator Training, Pb200i, with regards to the materials licensed by the Commonwealth of Massachusetts and the Nuclear Regulatory Commission.

## Instrument Operator Training
## Viken Detection Corporation, Pb200i

I confirm that the above named individual has received the training listed on this certificate.

Deblyn Palella January 10th, 2020

Name Date

XRF Sales, Rentals, Training and Consulting

Title

I certify that I have received the stated training and understand the content presented. I understand that I can follow up this training with questions from Viken Detection Corporation.

January 22, 2020

Name Date

# VII. PERFORMANCE CHARACTERISTIC SHEETS

## VIII. GLOSSARY

**Abatement**: A measure or set of measures designed to permanently eliminate lead-based paint hazards or lead-based paint. Abatement strategies include the removal of lead-based paint, enclosure, encapsulation, replacement of building components coated with lead-based paint, removal of lead contaminated dust, and removal of lead contaminated 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; recordkeeping; and, if applicable, monitoring.

**Accreditation**: A formal recognition certifying that an organization, such as a laboratory, is competent to carry out specific tasks or types 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 and analysis.

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

**Building component**: Any element of a building that may be painted or have dust on its surface, e.g., walls, stair 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/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 windowsill.

**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 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.

**De Minimis Levels:** Work that disturbs less than 20 square feet of exterior surfaces or 2 square feet of interior surfaces.

**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 three 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.

**Enclosure**: The use of rigid, durable construction materials that are mechanically fastened to the substrate to act as a barrier between the Lead-based paint and the environment.

**Evaluation**: Risk assessment, paint inspection, reevaluation, investigation, clearance examination, or risk assessment screen.

**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 of 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.

**Interior windowsill**: The portion of the horizontal window ledge that protrudes into the interior of the room, adjacent to the window sashes 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 and organic compounds of lead.

**Lead-based paint**: Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 $mg/cm^2$ (milligrams of lead per square centimeter of surface) as measured by XRF or laboratory analysis, or 0.5 percent by weight (5,000 µg/g, 5,000 ppm (parts per million), or 5,000 mg/kg) as measured by laboratory analysis. (Local definitions may vary.)

**Lead-based paint hazard**: A condition in which exposure to lead from lead-contaminated dust, lead contaminated soil, or deteriorated lead-based paint would have an adverse effect on human health (as established by the EPA Administrator under Title IV of the Toxic Substances Control Act). Lead-based paint hazards include, for example, deteriorated 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 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 µg/g in play areas and 1200 µg/g in the rest of the yard.

**Lead dust/Lead-contaminated dust**: Surface dust in residences that contain an area concentration of lead in excess of the standard established by the EPA Administrator, pursuant to Title IV of the Toxic Substances Control Act. EPA standards for leaded dust for risk assessments are 10 $µg/ft^2$ (micrograms of lead per square foot) on floors and 100 $µg/ft^2$ on interior windowsills. The EPA standards for clearance are 10 $µg/ft^2$ on floors, 100 $µg/ft^2$ on interior windowsills and 400 $µg/ft^2$ on window troughs.

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

**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 number of data values.

**Microgram (µg)**: 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, enclosure, 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, conservator, 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 rent 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.

**Polyethylene plastic**: All references to polyethylene plastic refer to 6 mil 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 containment 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 signs 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.

**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.

**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.

**Standard deviation**: A measure of the precision of a reading; the spread of the deviation from the mean. The smaller the standard deviation, the more precise the analysis. The standard deviation is calculated by first obtaining the mean, or the arithmetic average, of all of 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.

**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 an XRF analyzer contributes to substrate equivalent lead (bias). The inspector may have to compensate for this effect when using XRF analyzers.

**Substrate Equivalent Lead (SEL)**: The XRF measurement taken on an unpainted surface; used to calculate the corrected lead concentration on a surface by using the following formula: Apparent Lead Concentration–Substrate Equivalent Lead = Corrected Lead Concentration.

**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.

**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 has 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.