Lead Based Paint Inspection and Lead Hazard Risk Assessment Report

Performed at:
Private Residence
Street
City, State ZIP

Prepared For:
Name of Property Owner
Street
City, State ZIP
Phone Number

Prepared By:

Company Name
State Certification Number
Lead Inspector/Risk Assessor/Certification Number
Street
City, State ZIP
Phone Number
Fax Number
Project Number

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1. **Letter to Owner**

INSERT DATE

Name of Property Owner
Street
City, State ZIP

Dear INSERT NAME OF PROPERTY OWNER:

The lead-based paint inspection was performed to identify paint that contains lead above allowable levels. The risk assessment identifies housing conditions called lead-based paint hazards that could result in harm to residents, workers and especially to young children. This report can help Owners develop a plan for eliminating any lead-based paint hazards that were found and aid in establishing an ongoing lead-based paint maintenance and re-evaluation program, if needed.

Attached please find XRF lead based paint test results and lead hazard risk assessment for the house at INSERT PROPERTY ADDRESS. Lead paint was confirmed on INSERT DATE(S).

The following components were determined to contain Lead-Based Paint:

1.
2.
ETC.

The following summarizes locations of lead based paint hazards as of the date of the on site evaluations. Routine maintenance and painting can and does change the conditions within a residence.

1.
2.
ETC.

Sincerely

Risk Assessor, #XXXX-XXXXXX
COMPANY

NOTE: 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 also must be provided to new purchasers and it must be made available to new tenants. Landlords (lessors) and sellers also are required to distribute an educational pamphlet approved by the United States Environmental Protection Agency and include standard warning language in their leases or sale contracts to ensure that parents have the information they need to protect children from lead-based paint hazards.

2. Executive Summary

As a result of the lead based paint inspection and lead hazard risk assessment (to be referred to as "Assessment") conducted on ENTER DATE, it was found that lead based paint and lead hazards were present on the subject property as of the date of the Assessment. The analytical results from this Assessment effort identified the following lead based paint (LBP) and lead hazards, as defined by EPA and/or HUD standards:

- INSERT LOCATIONS LBP and LEAD HAZARDS WERE IDENTIFIED
-
-

ETC.

Please remember that all identified LBP and lead hazards should always be properly addressed by professionally certified lead workers.

Following is a report of the information collected during this Assessment:

HAZARD IDENTIFIED	INTERIM CONTROL OPTION	LONG TERM CONTROL OPTION

3. Identifying Information and Purpose of Risk Assessment

A lead based paint inspection and lead hazard risk assessment (Assessment) was conducted at INSERT PROPERTY ADDRESS for INSERT PROPERTY OWNER on INSERT DATE. The Assessment was conducted for COMPANY, INSERT COMPANY ADDRESS, INSERT FIRM CERTIFICATION #, by INSERT LI/RA NAME, a Certified Lead Inspector and Risk Assessor (INSERT STATE CERTIFICATE and #). The purpose of the Assessment was to identify the presence of lead hazards on surfaces inside and outside the residence, The INSERT GRANT PROGRAM is providing funds from the U.S. Department of Housing and Urban Development to perform a lead hazard control project at this home. Based upon conversations with the Owner and the INSERT GRANT PROGRAM, to the knowledge of this Assessor, there has not been any previous LBP testing at this home.

As part of the Assessment, a visual survey of the property and structure was conducted, dust wipe sampling was performed on interior surfaces, and soil samples were collected. In addition, on-site paint testing using an x-ray fluorescence (XRF) analyzer was performed.

The Assessment was contracted for by INSERT PROPERTY OWNER, INSERT PROPERTY ADDRESS. Further information concerning this project can be obtained from this contracting agency. The results of the assessment are summarized below.

4. Identified Lead Hazards

While the building and its paint was generally in good condition during the Assessment, the XRF results from the paint that was tested showed that LBP hazards exist, as defined in the Residential LBP Hazard Reduction Act of 1992 (Title X) and as defined by the Environmental Protection Agency (EPA) regulation published in the January 5, 2001 Federal Register. The XRF results indicate that lead levels above EPA and/or US Department of Housing and Urban Development (HUD) criteria exist in the following locations:

Existing Lead Based Paint and Lead Hazards Identified

The following areas are coated with Lead-Based Paint (LBP) that is *deteriorated* and currently present existing lead-based paint hazards. All component substrates are wood.

1.
2.
3.

A listing of environmental sampling locations and their associated lead contamination levels can be found in the sections addressing the analytical laboratory results for paint, dust, and soil.

Hazard control options and associated cost estimates for the areas or components identified as containing LBP and as a current lead hazards are also included later in this report. In an effort to aid in the interpretation of the listed findings a glossary of terms and a list of publications and resources addressing lead hazards and their health effects are included at the end of this report.

5. Excluded Components

The following table lists those components and areas which the inspector was not able to test. It is recommended that these components and areas be made accessible and be tested so as to determine the presence of lead based paint.

AREA/LOCATION	COMPONENT	REASON NOT TESTED

KEY:
UNC – UNCOATED
INA – INACCESSIBLE
ENCL – ENCLOSED

6. Ongoing Monitoring

On-going monitoring will be necessary in this property since lead based paint (LBP) is present. When LBP is present, the potential exists for LBP hazards to develop. Hazards can develop by means such as, but not limited to: the failure of lead hazard control measures; previously intact LBP becoming deteriorated; dangerous levels of lead-in-dust (dust lead) re-accumulating through friction, impact, and deterioration of paint; or, through the introduction of contaminated exterior dust and soil into the interior of the structure. Ongoing monitoring typically includes two different activities: re-evaluation and annual visual assessments. A re-evaluation is a risk assessment that includes limited soil and dust sampling and a visual evaluation of paint films and any existing lead hazard controls. Re-evaluations are supplemented

with visual assessments by the property owner, which should be conducted at least once a year, when the property owner or its management agent (if the housing is rented in the future) receives complaints from residents about deteriorated paint or other potential lead hazards, when the residence (or if, in the future, the house will have more than one dwelling unit, any unit that turns over or becomes vacant), or when significant damage occurs that could affect the integrity of hazard control treatments (e.g., flooding, vandalism, fire). The visual assessment should cover the dwelling unit (if, in the future, the housing will have more than one dwelling unit, each unit and each common area used by residents), exterior painted surfaces, and ground cover (if control of soil-lead hazards is required or recommended). Visual assessments should confirm that all paint with known LBP is not deteriorating, that lead hazard control methods have not failed, and that structural problems do not threaten the integrity of any remaining known, presumed or suspected LBP.

Visual assessments do not replace the need for professional re-evaluations by a certified risk assessor. The re-evaluation should include:

1. A review of prior reports to determine where lead-based paint and lead-based paint hazards have been found, what controls were done, and when these findings and controls happened;
2. A visual assessment to identify deteriorated paint, failures of previous hazard controls, visible dust and debris, and bare soil;
3. Environmental testing for lead in dust, newly deteriorated paint, and newly bare soil; and
4. A report describing the findings of the reevaluation, including the location of any lead-based paint hazards, the location of any failures of previous hazard controls, and, as needed, acceptable options for the control of hazards, the repair of previous controls, and modification of monitoring and maintenance practices.

The first reevaluation should be conducted no later than two years after completion of hazard controls, or, if specific controls or treatments are not conducted, two years from the beginning of ongoing lead-based paint monitoring and maintenance activities. Subsequent reevaluations should be conducted at intervals of two years, plus or minus 60 days. If two consecutive reevaluations are conducted two years apart without finding a lead-based paint hazard, reevaluation may be discontinued.

Please refer to your community development agency, housing authority, or other applicable agency for additional local/regional regulations and guidelines governing re-evaluation activities.

7. Disclosure Regulations

A copy of this complete report must be made available to new lessees (tenants) and must be provided to purchasers of this property under Federal law before they become obligated under any future lease or sales contract transactions (Section 1018 of Title X – found in 24 CFR Part 35 and 40 CFR Part 745), until the demolition of this property. Landlords (Lessors) and/or sellers are also required to distribute an educational pamphlet developed by the EPA entitled *"Protect Your Family From Lead in Your Home"* 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 LBP hazards.

8. Conditions & Limitations

Staff of INSERT COMPANY have performed the tasks listed above requested by the Client in a thorough and professional manner consistent with commonly accepted standard industry practices, using state of the art practices and best available known technology, as of the date of the assessment. INSERT COMPANY cannot guarantee and does not warrant that this Assessment has identified all adverse environmental factors and/or conditions affecting the subject property on the date of the Assessment. INSERT COMPANY cannot and will not warrant that the Assessment that was requested by the client will satisfy the dictates of, or provide a legal defense in connection with, any environmental laws or regulations. It is the responsibility of the client to know and abide by all applicable laws, regulations, and standards, including EPA's Renovation, Repair and Painting regulation.

The results reported and conclusions reached by INSERT COMPANY are solely for the benefit of the client. The results and opinions in this report, based solely upon the conditions found on the property as of the date of the Assessment, will be valid only as of the date of the Assessment. INSERT COMPANY assumes no obligation to advise the client of any changes in any real or potential lead hazards at this residence that may or may not be later brought to our attention. Further conditions and limitations to this contracted report are included in the general terms and conditions supplied to the client with the contract for services.

9. Site Information and Field Testing

a. Resident Questionnaire

A resident questionnaire was completed as part of the Assessment, to help the Client identify particular use patterns and lead based paint hazards. , The answers to the questionnaire were obtained during an interview with the occupants, INSERT PROPERTY OWNER. Following is a summary of the information obtained during that interview:

Children in the Household:	
Children's bedroom locations:	
Children's eating locations:	
Primary interior play area(s):	
Primary exterior play area(s):	
Toy Storage:	
Pets:	
Children's blood lead testing history:	
Observed chewed surfaces:	
Women of child bearing age:	
Previous lead testing:	
Most frequently used entrances:	
Most frequently opened windows:	
Structure cooling method:	
Gardening – type and location(s):	
Plans for landscaping:	
Cleaning regiment:	
Cleaning methods:	
Recently completed renovations:	
Demolition debris on site:	
Resident(s) with work lead exposure:	
Planned renovations:	

b. Building Conditions Survey

Date of Construction:	
Apparent Building Use:	
Setting:	
Front Entry Faces:	
Design:	
Construction Type:	
Lot Type:	
Roof:	
Front Entry Faces:	
Foundation:	
Front Lawn Condition:	
Back Lawn Condition:	
Drip Line Condition:	
Site Evaluation:	
Exterior Structural Condition:	
Interior Structural Condition:	
Overall Building/Site Condition:	

c. Paint Condition Survey

The purpose of the visual assessment element of the risk assessment is to locate potential lead-based paint hazards, both exterior and interior. Within a dwelling unit, the visual assessment should be conducted in all rooms. In multi-family buildings, the visual assessment should include examination of common areas adjacent to sampled dwelling units (see Section III.B, below, regarding unit sampling) and other common areas in which one or more children under age 6 are likely to come in contact with dust. The risk assessor should also examine exterior painted surfaces, including fences and outbuildings that are part of the residential property (such as garages, fences and storage sheds) as well as buildings with living spaces. Also, the risk assessor should examine the grounds to identify bare soil. The result should be a complete inventory of the location and approximate size of each lead based paint hazard.

Please Note: EPA and HUD have provided a specific definition for the term "deteriorated paint." Deteriorated paint is defined as "any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate." This definition is most typically associated with surface conditions only. Usage of this term in describing conditions other than those associated with surface coatings are not known to be defined by EPA or HUD.

Property address: _____ Apt. No. _____ **Page ____ of ____**
Name of property owner: _____
Name of risk assessor: _____ Date of assessment: ____/____/_____

Area Description		Deteriorated Paint			Friction or Impact Surface? (F or I)	Visible Teeth Marks? (Y or N)	Notes [e.g., paint testing (e.g., XRF, lab analysis) indicates paint is or is not lead-based paint; cause(s) of hazard control failures]
Location of Building Component, Dust or Bare Soil	Building Component, Dust, or Bare Soil Play Area/Non-Play Area	Area (sq. ft.)	Is Area Small?[2] (Y or N)	Probable Cause(s) of Deterioration if Known[3]			

d. **Paint Sampling and Testing**

LBP testing, conforming with the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing and the OHHLHC Lead Based Paint Hazard Control Program guidelines, was completed at this residence. No paint chip samples were taken. On X/XX/20XX, a total of **XXX** tests (assays) were taken on surfaces inside and outside of the residence using an x-ray fluorescence analyzer. Lead concentrations that meet or exceed the HUD published levels identified as being potentially dangerous (e. g., greater than or equal to 1.0 milligrams per centimeter square [$\geq$ 1.0 mg/cm^2]) were encountered on the exterior siding and trim, the exterior window components and trim, and all front porch components.

Some of the remaining test locations exhibited lead levels below the EPA/HUD limits, but in great enough quantities to be detectable by our XRF analyzer. It should be noted that lead concentrations (in paint) that are less than the levels that identify a surface coating as LBP still have the potential of causing lead poisoning. Should these or any potential LBP painted components and/or surfaces be disturbed in any manner that generates dust, extreme care must be taken to limit its spread. Lead Safe Work Practices are always recommended.

Testing was performed by INSERT LI/RA NAME, a State of INSERT STATE certified Risk Assessor, using the INSERT TYPE OF XRF X-ray Fluorescence analyzer (INSERT SERIAL #, State of INSERT STATE license #INSERT LICENSE #). Please refer to the appendices for the detailed XRF, dust and soil sampling analytical reports. Testing data in **bold face** indicates lead levels at or above the EPA Hazardous Levels of Lead regulations that were published on January 5, 2001.

e. XRF Lead-Based Paint Testing Results

XRF Analytical Sampling Results for Street, City, State ZIP									
Reading Number	Location[1]	Side	Structure	Feature	Condition I (intact) D (deteriorated)	Substrate	Color	Result	Lead (mg/cm^2)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
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23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									

[1] See Sketch in Appendix A

XRF Calibration Checks

C-1	Calibration Verify	NIST Lead Paint Film Standard, 1.0 + .1, (Red NIST Film)	
C-2	Calibration Verify	NIST Lead Paint Film Standard, 1.0 + .1, (Red NIST Film)	
C-3	Calibration Verify	NIST Lead Paint Film Standard, 1.0 + .1, (Red NIST Film)	

Performed by **INSERT COMPANY, INSERT ADDRESS**

f. **Interior Dust Sampling**

Dust samples must be collected from a window sill and floor area in all rooms of the housing unit where young children will come into contact with dust. A minimum of eight (8) samples should be collected. A total of INSERT # OF DUST WIPES dust wipe samples were collected in an effort to help to determine the levels of lead-containing dust on the interior window sills and floors. These samples were collected from areas most likely to be lead contaminated if lead-in-dust is present. These samples were collected in accordance with the requirements of ASTM Standard E-1728, Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques. EPA, HUD and State of INSERT STATE regulations define the following as hazardous levels for lead dust in residences: floors – ≥40 μg/ft^2 (micrograms per square foot); interior window sills – ≥250 μg/ft^2. There is no EPA dust-lead hazard standard for window troughs. Please refer to *Appendix B – Dust Wipe Analytical Results* for the laboratory reports and to *Appendix I – Lead and Lead Safety Information and Resources* for a list of publications and resources addressing lead hazards and their health effects; both are located at the end of this report. As indicated below, a hazardous level of leaded dust, as defined by EPA and HUD, was detected in INSERT # OF SAMPLES sample(S). This sample was obtained from the INSERT LOCATION OF SAMPLES and constitutes a dust-lead hazard in that room. Testing data in **bold face** indicates dust lead levels at or above the EPA Hazardous Levels of Lead regulations that were published on January 5, 2001.

	Type	Location	Component	Sample Size (ft^2)	Sample Location	Test Results (μg/ft^2)
1	Dust Wipe					
2	Dust Wipe					
3	Dust Wipe					
4	Dust Wipe					
5	Dust Wipe					
6	Dust Wipe					
7	Dust Wipe					
8	Dust Wipe					

Laboratory Information:

Laboratory Name	Street Address
	City, State ZIP
Dust Wipe Analysis Protocol:	EPA Method XX000, 0000, implementing XXXXXXXXX XXXXXX XXXXX XXXXX
Dust Wipe medium used:	Lead-Wipes, ASTM # X0000-00aqq
National Lead Laboratory Accreditation Program Serial number:	#000000

g. **Soil Sampling and Laboratory Information**

INSERT # OF SOIL SAMPLES soil samples were collected at this residence in accordance with the requirements of ASTM Standard E-1727, Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques. The samples were collected from bare soil areas only. See the following table for a summary of the soil sampling results. Please refer to *Appendix C – Soil Sample Analytical Data* for the detailed analytical reports. Testing data in **bold face** indicates soil lead levels at or above the EPA Hazardous Levels of Lead regulations that were published on January 5, 2001.

	Type	Location	Comments	Test Results (µg/g)
#	Composite			
#	Composite			

Laboratory Information:

Laboratory Name	Street Address
	City, State ZIP
Soil Analysis Protocol:	EPA Method SW846, 7420, implementing a microwave-assisted digestion process.
National Lead Laboratory Accreditation Program Serial number:	#000000

10. Lead Based Paint Hazard Control Options

Lead abatement, interim controls, lead-safe work practices and worker/occupant protection practices complying with current EPA, HUD and OSHA standards will be necessary to safely complete all work involving the disturbance of LBP coated surfaces and components. In addition, any work considered lead hazard control will enlist the use of interim control (temporary) methods and/or abatement (permanent) methods. It should be noted that all lead hazard control activities have the potential of creating additional hazards or hazards that were not present before. Properly trained and certified persons, as well as properly licensed firms (as mandated) should accomplish all abatement/interim control activities conducted at this residence.

Details for the listed lead hazard control options and issues surrounding occupant/worker protection practices can be found in the publication entitled: *Guidelines for the Evaluation and Control of LBP Hazards in Housing* published by HUD, the Environmental Protection Agency (EPA) lead-based paint regulations , and the Occupational Safety and Health Administration (OSHA) regulations found in its Lead in Construction Industry Standard.

Interim controls, as defined by HUD, means a set of measures designed to temporarily reduce human exposure to LBP hazards and/or lead containing materials. These activities include, but are not limited to: component and/or substrate stabilization; paint and varnish stabilization; maintenance; temporary containment; placement of seed, sod or other forms of vegetation over bare soil areas; the placement of at least 6 inches of an appropriate mulch material over an impervious material, laid on top of bare soil areas; the tilling of bare soil areas; extensive and specialized cleaning; and, ongoing LBP maintenance activities.

Abatement, as defined by HUD, means any set of measures designed to permanently eliminate LBP and/or LBP hazards. The product manufacturer and/or contractor must warrant abatement methods to last a minimum of twenty (20) years, or these methods must have a design life of at least twenty (20) years. These activities include, but are not necessarily limited to: the removal of LBP from substrates and components; the replacement of components or fixtures with lead containing materials and/or lead containing paint; the permanent enclosure of LBP with construction materials; the encapsulation of LBP with approved products; the removal or permanent covering (concrete or asphalt) of soil-lead hazards; and, extensive and specialized cleaning activities. (EPA's definition is substantively the same.)

11. Appendices

a. Appendix A Dust Sample Data

Name of Laboratory
Street Address
City, State ZIP
Phone Number Fax Number
(List Lab Accreditations)

LABORATORY ANALYSIS REPORT
Lead Analysis by EPA 0000X/0000 Method

CLIENT #: XXXXXXXX
CLIENT: COMPANY
ADDRESS: Street
City, State ZIP
PO #: N/A

DATE COLLECTED: 00/00/0000
DATE RECEIVED: 00/00/0000
DATE ANALYZED: 00/00/0000
DATE REPORTED: 00/00/0000
SAMPLE TYPE: WIPE

PROJECT NAME: City of ANYTOWN
JOB LOCATION: Street, City, State ZIP

ALI Sample No	**Client Sample No.**	**Sample Description**	**Sample Area (ft^2)**	**Dilution Factor**	**Total Lead (µg)***	**Lead Concentration ($µg/ft^2$)**

QC – 18081	10.0 ppm Calibration Std				
QC – 18081	200 µg spike				
QC – 18081	5.0 ppm Calibration Std				
QC – 18081	Blank				
QC – 18081	NIST 2710 Standard				

ANALYST: **XXXXX XXXXXX**
Total No. of Pages in Report: 1 REVIEWED BY: **XXXXXX XXXXXXX**
*Minimum Reporting Limit: 20 µg Total Lead. Effective 3/6/01, EPA Lead Hazard Standards: 40 $µg/ft^2$ for floors and 250 $µg/ft^2$ for interior window sills, 400 $µg/ft^2$ for window troughs. Industrial projects may have limits established per project. *For true values, assume two (2) significant figures.*

b. Appendix B Soil Sample Data

Name of Laboratory
Street Address
City, State ZIP
Phone Number Fax Number
(List Lab Accreditations)

LABORATORY ANALYSIS REPORT
Lead Analysis by EPA 0000X/0000 Method

CLIENT #: XXXXXXXX
CLIENT: COMPANY
ADDRESS: Street
City, State ZIP
PO #: N/A

DATE COLLECTED: 00/00/0000
DATE RECEIVED: 00/00/0000
DATE ANALYZED: 00/00/0000
DATE REPORTED: 00/00/0000
SAMPLE TYPE: SOIL

PROJECT NAME: City of ANYTOWN
JOB LOCATION: Street, City, State AIP

ALI Sample No	Client Sample No.	Sample Description	Sample Wt (mg)	Dilution Factor	Total Lead (µg)*	Lead Concentration (% by wt)	Lead Conc (ppm)

QC – 14669	10.0 ppm Calibration Std				
QC – 14669	200 µg spike				
QC – 14669	5.0 ppm Calibration Std				
QC – 14669	Blank				
QC – 14669	NIST 2710 Standard				

ANALYST: **XXXXX XXXXX** REVIEWED BY **XXXXX XXXXXX**
Total No. of Pages in Report: 1

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*Minimum Reporting Limit: 20 µg Total Lead. Effective 3/6/01, EPA Lead Hazard Standards: 40 µg/ft² for floors and 250 µg/ft² for interior window sills, 400 µg/ft² for window troughs. Industrial projects may have limits established per project. *For true values, assume two (2) significant figures.*

c. **Appendix C Site and Floor Plan**

Site and Floor Plan

Insert site and floor plans indicating the locations of XRF testing, soil lead and dust lead sampling performed at this property.

d. **Appendix D Risk Assessor License and Certification**

Copy of Risk Assessor's License/Certification

NOTE: In this age of electronic alteration and reproduction, HUD encourages all lead-based paint professionals to give serious consideration to the issue of whether they wish to attach photocopies of their certification(s) or license(s).

INSERT COPY OF STATE/EPA RISK ASSESSOR LICENSE/CERTIFICATION.

e. Appendix E Firm's Lead Activity License/Certification

Copy of Firm's Lead Activity License/Certification

INSERT COPY OF FIRM'S LEAD ACTIVITY LICENSE/CERTIFICATION

f. **Appendix F XRF Training Certificate and Performance Characteristic Sheet**

Copy of XRF Training Certificate
and
XRF Performance Characteristic Sheet

INSERT COPY OF XRF TRAINING CERTIFICATE.
INSERT PCS. (IF MORE THAN ONE XRF MODEL WAS USED, INSERT THE PCS FOR EACH)

g. Appendix G "LEAD SPEAK:" a brief 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. (For full EPA definition, see 40 CFR 745.223).

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

Chewable surface: An interior or exterior surface painted with lead-based paint that a young child can mouth or chew. A chewable surface is the same as an "accessible surface" as defined in 42 U.S.C. 4851b(2). Hard metal substrates and other materials that cannot be dented by the bite of a young child are not considered chewable.

Deteriorated paint: Any 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.

Dripline/foundation area: The area within 3 feet out from the building wall and surrounding the perimeter of a building.

Dust-lead hazard: Surface dust in residences that contains an area or mass concentration of lead equal to or in excess of the standard established by the EPA under Title IV of the Toxic Substances Control Act. EPA standards for dust-lead hazards, which are based on wipe samples, are published at 40 CFR 745.65(b); as of the publication of this edition of these *Guidelines,* these are 40 $\mu g/ft^2$ on floors and 250 $\mu g/ft^2$ on interior windowsills. Also called lead-contaminated dust.

Friction surface: Any interior or exterior surface, such as a window or stair tread, subject to abrasion or friction.

Garden area: An area where plants are cultivated for human consumption or for decorative purposes.

Impact surface: An interior or exterior surface (such as surfaces on doors) subject to damage by repeated impact or contact.

Interim controls: A set of measures designed to temporarily reduce human exposure or possible exposure to lead-based paint hazards. Such measures include, but are not limited to, specialized cleaning, repairs, maintenance, painting, temporary containment, and the establishment and operation of 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. Interim controls that disturb painted surfaces are renovation activities under EPA's Renovation, Repair and Painting Rule.

Lead-based paint: Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm^2 as measured by XRF or laboratory analysis, or 0.5 percent by weight (5000 mg/g, 5000 ppm, or 5000 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 at 40 CFR 745.65, under Title IV of the Toxic Substances Control Act). Lead-based paint hazards include, for example, **paint-lead hazards**, **dust-lead hazards**, and **soil-lead hazards**.

Paint-lead hazard: Lead-based paint on a friction surface that is subject to abrasion and where a dust-lead hazard is present on the nearest horizontal surface underneath the friction surface (e.g., the window sill, or floor); damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component; a chewable lead-based painted surface on which there is evidence of teeth marks; or any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

Play area: An area of frequent soil contact by children of under age 6 as indicated by, but not limited to, such factors including the following: the presence of outdoor play equipment (e.g., sandboxes, swing sets, and sliding boards), toys, or other children's possessions, observations of play patterns, or information provided by parents, residents, care givers, or property owners.

Soil-lead hazard: Bare soil on residential property that contains lead in excess of the standard established by the EPA under Title IV of the Toxic Substances Control Act. EPA standards for soil-lead hazards, published at 40 CFR 745.65(c), as of the publication of this edition of these *Guidelines,* is 400 µg/g in play areas and 1,200 µg/g in the rest of the yard. Also called lead-contaminated soil.

h. **Appendix H Additional Lead and Lead Safety Resource Data**

KEY UNITS OF MEASUREMENT

Gram (g or gm): A unit of mass in the metric system. A nickel weighs about 1 gram, as does a 1 cube of water 1 centimeter on each side. A gram is equal to about 35/1000 (thirty-five thousandths of an ounce). Another way to think of this is that about 28.4 grams equal 1 ounce.

µg (microgram): A microgram is 1/1000th of a milligram. To put this into perspective, a penny weighs 2 grams. To get a microgram, you would need to divide the penny into 2 million pieces. A microgram is one of those two million pieces.

µg/dL (microgram per deciliter): used to measure the level of lead in children's and worker's blood to establish whether intervention is needed. A deciliter is a little less than a half a cup.

µg/ft^2 (micrograms per square feet): the unit used to express levels of lead in dust samples. All reports should report levels of lead in dust in µg/ft^2.

mg/cm^2 (milligrams per square centimeter): used to report levels of lead in paint thru XRF testing.

ppm (parts per million): Typically used to express the concentrations of lead in soil. Can also be used to express the amount of lead in a surface coating on a mass concentration basis. This measurement can also be shown as: µg/g, mg/kg or mg/l.

ppb (parts per billion): Typically used to express the amount of lead found in drinking water. This measurement is also sometimes expressed as: µg/L (micrograms per liter).

EPA/HUD Lead-Based Paint and Lead-Based Paint Hazard Standards

Lead-Based Paint (may be determined in either of two ways)

- Surface concentration (mass of lead per area) 1.0 µg/cm^2
- Bulk concentration (mass of lead per volume) 0.5%, 5000 µg/g, or 5000 ppm

Dust-thresholds for Lead-Contamination

New Lead Dust Hazard Action Levels:

- Floors: ≥ 10 µg/ft2
- Window Sills: ≥ 100 µg/ft2

New Lead Clearance Action Levels:

- Interior Floors: < 10 µg/ft2
- Porch Floors: < 40 µg/ft2
- Window Sills: < 100 µg/ft2
- Window Troughs: < 100 µg/ft2

Soil-thresholds for Lead Contamination

- Play areas used by children under age 6 400 µg/g, or 400 ppm
- Other areas 1200 µg/g, or 1200 ppm

i. **Appendix I Resources for additional information on lead-based paint and lead-based paint hazards**

National Lead information Center & Clearinghouse:
1-800-424 LEAD
www.epa.gov/lead/pubs/nlic.htm

Centers for Disease Control and Prevention Lead Program:
www.cdc.gov/lead
Toll-free CDC Contact Center: 800-CDC-INFO; TTY 888-232-6348

CONSUMER PRODUCT SAFETY COMMISSION
www.cpsc.gov
Toll-free consumer hotline: 1-800-638-2772; TTY 301-595-7054

Environmental Protection Agency Lead Program:
www.epa.gov/lead
202-566-0500

HUD OFFICE OF HEALTHY HOMES AND LEAD HAZARD CONTROL:
www.hud.gov/offices/lead
202-402-7698

Anystate *Department of Health and Environment, Lead Poisoning Prevention Program*
depthealth.state.an/lead/

Hearing- or speech-challenged individuals may access the federal agency numbers above through TTY by calling the toll-free Federal Relay Service at 800-877-8339; see also http://www.federalrelay.us/tty.