

Lead-Based Paint Testing and Lead Hazard Risk Assessment Report



PERFORMED AT:
111 White St.
Weymouth, MA 02190

PREPARED FOR:
Khady Mascarenhas
111 White St.
Weymouth, MA 02190

PREPARED BY:
Titan Lead Testing, LLC
MA License # MI/R 4025
Expires 04/26/2023
PO Box 760709
Melrose, MA 02176

APPROVED BY:

Jane Berry
Lead Project Manager
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34 Coddington Street, 3rd Floor
Quincy, MA 02169

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Letter to Owner

January 18, 2023
Khady Mascarenhas
111 White St.
Weymouth, MA 02190

Dear Khady Mascarenhas;

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 and lead hazard risk assessment for the house at 111 White St., Weymouth, MA. Lead paint was confirmed to be present in, within or outside the property on January 11, 2023.

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

1. Interior: Door, door edge, door casing, door jamb, window sill, window apron, window casing, and baseboard.
2. Porches: Support column.
3. Exterior: Door jamb.
4. Garage: Door, door jamb, threshold, and window sash.

Sincerely,

David Pesce
Master Lead Inspector/Risk Assessor M4025

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.

Executive Summary

As a result of the lead based paint inspection and lead hazard risk assessment (to be referred to as "Assessment") conducted on January 11, 2023, it was found that lead-based paint and lead based paint hazards were present on the subject property as of the date of the Assessment. The analytical results from this Assessment identified the following lead based paint (LBP) and LBP hazards, as defined by EPA and/or HUD standards:

111 White St., Weymouth				
Room/Area	Side	Location/Surface	Lead	Hazard
Room 1	C1	Door Casing	1.0	None
Room 1	C1	Door Jamb	3.0	None
Room 1	A1	Window Apron	1.3	None
Room 1	A2	Window Apron	1.2	None
Room 1	B	Window Apron	1.4	None
Room 1	D1	Window Apron	1.4	None
Room 1	D2	Window Apron	1.1	None
Hallway 1 in Unit	ABCD	Baseboard	24.0	None
Hallway 1 in Unit	B	Door Casing	24.0	None
Hallway 1 in Unit	B	Door Jamb	2.8	Deteriorated
Room 2	A1	Door	2.3	None
Room 2	A1	Door Edge	6.8	Deteriorated
Room 2	A1	Door Casing	18.2	Deteriorated
Room 2	A1	Door Jamb	20.7	Deteriorated
Stairway 1st to 2nd	ABCD	Baseboard	9.8	Deteriorated
Stairway 1st to 2nd	A	Door	1.6	None
Stairway 1st to 2nd	A	Door Edge	1.4	Deteriorated
Stairway 1st to 2nd	A	Door Casing	5.6	None
Stairway 1st to 2nd	A	Door Jamb	5.1	None
Stairway 1st to 2nd	B2	Door	1.3	None
Stairway 1st to 2nd	B2	Door Edge	1.6	Deteriorated
Stairway 1st to 2nd	B2	Door Casing	6.3	None
Stairway 1st to 2nd	B2	Door Jamb	6.0	None
Stairway 1st to 2nd	C	Door	1.4	None
Stairway 1st to 2nd	C	Door Edge	2.0	Deteriorated
Stairway 1st to 2nd	C	Door Casing	6.3	None
Stairway 1st to 2nd	C	Door Jamb	6.0	None
Stairway 1st to 2nd	D	Door	1.9	None
Stairway 1st to 2nd	D	Door Edge	1.4	Deteriorated
Stairway 1st to 2nd	D	Door Casing	3.6	None
Stairway 1st to 2nd	D	Door Jamb	3.1	None
Room 3	C	Door	1.4	Deteriorated
Room 3	C	Door Edge	1.3	Deteriorated
Room 3	C	Door Casing	12.0	None

Room 3	C	Door Jamb	23.0	Deteriorated
Room 3	A	Window Apron	1.3	None
Room 3	A	Window Casing	1.0	None
Room 4	ABCD	Baseboard	1.6	None
Room 4	A	Door	2.3	None
Room 4	A	Door Edge	2.4	Deteriorated
Room 4	A	Door Casing	36.0	None
Room 4	A	Door Jamb	33.0	Deteriorated
Room 4	D	Door	2.1	None
Room 4	D	Door Edge	16.0	Deteriorated
Room 4	D	Door Casing	4.2	None
Room 4	D	Door Jamb	4.3	Deteriorated
Room 4	B1	Window Sill	1.9	Deteriorated
Room 4	B1	Window Apron	1.6	None
Room 4	B1	Window Casing	2.3	None
Room 4	B2	Window Sill	1.6	Deteriorated
Room 4	B2	Window Apron	1.8	None
Room 4	B2	Window Casing	1.4	None
Room 4	C	Window Sill	1.7	Deteriorated
Room 4	C	Window Apron	1.9	None
Room 4	C	Window Casing	1.3	None
Room 5	ABCD	Baseboard	1.0	None
Room 5	A	Door	1.9	None
Room 5	A	Door Edge	2.3	Deteriorated
Room 5	A	Door Casing	36.0	None
Room 5	A	Door Jamb	34.0	Deteriorated
Room 5	C	Window Sill	1.8	Deteriorated
Room 5	C	Window Apron	1.6	None
Room 5	C	Window Casing	1.4	None
Bathroom 2	B	Door	3.2	None
Bathroom 2	B	Door Edge	3.1	Deteriorated
Bathroom 2	B	Door Jamb	26.0	Deteriorated
Exterior B	B	Door Jamb	16.0	Deteriorated
Porch B/C 1st Floor	----	Support Column	3.9	None
Garage	B1-3	Window Sash	3.6	Deteriorated
Garage	C	Door	8.7	Deteriorated
Garage	C	Door Jamb	10.9	Deteriorated
Garage	C	Threshold	1.4	Deteriorated
Garage	C1-2	Window Sash	3.9	Deteriorated
Garage	D1-3	Window Sash	6.7	Deteriorated

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

The following is a report of the information collected during this Assessment:

* Encapsulation is allowed on interior and exterior components on non-friction or non-impact surfaces

Hazard Components Identification	Interim Control Option	Long Term Control Option
Interior: Door, door edge, door casing, door jamb, window sill, window apron, window casing, and baseboard.	Paint stabilization	<ol style="list-style-type: none"> 1. Paint removal 2. Removal and replacement 3. Covering/encapsulation*
Porches: Support column.	Paint stabilization	<ol style="list-style-type: none"> 1. Paint removal 2. Removal and replacement 3. Covering/encapsulation*
Exterior: Door jamb.	Paint stabilization	<ol style="list-style-type: none"> 1. Paint removal 2. Removal and replacement 3. Covering/encapsulation*Removal and replacement
Garage: Door, door jamb, threshold, and window sash.	Paint stabilization	<ol style="list-style-type: none"> 1. Paint removal 2. Removal and replacement 3. Covering/encapsulation*

Identifying Information and Purpose of inspection / Risk Assessment

A lead-based paint inspection and lead hazard risk assessment was conducted at 111 White St., Weymouth, MA on January 11, 2023. The inspection was done by David Pesce a Massachusetts Licensed Lead inspector and Risk Assessor, number M/R 4025

The Assessment was conducted by Titan Lead Testing, LLC, P.O. Box 760709, Melrose, MA 02176 by David Pesce a Licensed Lead inspector and Risk Assessor (Massachusetts License # M/R4025). The purpose of the Assessment was to identify the presence of lead hazards on surfaces inside and outside the residence. The U.S. Department of Housing and Urban Development has provided funds to the Quincy Department of Planning and Community Development to perform lead hazard control in this community. The Assessment was conducted for these units to determine eligibility for the grant program listed above. The LBP hazards identified in this report will remain valid for up to one year to qualify this unit for OHHLHC program grant funds for Lead Hazard Control. Based upon details provided by the Owner, the Childhood Lead Poisoning Prevention Program, and the Quincy Department of Planning and Community Development, there were no previous inspection done.

As part of the Assessment, a visual survey of property and structure was conducted, and dust wipe sampling was performed on interior surfaces. On-site paint testing using an X-ray fluorescence (XRF) analyzer was performed on January 11, 2023.

The Assessment was contracted for Khady Mascarenhas, 111 White St., Weymouth, MA 02190, by the Quincy Department of Planning and Community Development. Further information concerning this project can be obtained from this contracting agency. The results of assessment are summarized below.

Identified lead Based Paint Hazards

The XRF results from the paint that was tested showed that LBP exists as defined in the Residential LBP Hazard Reduction Act 1992 (Title and as defined by the Environmental Protection Agency (EPA) regulation published in 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:

- In the interior, porches, exterior and garage; the surfaces with *deteriorated lead-based paint are listed in Section 2*. These items are considered lead-based paint hazards. All component substrates are primarily plaster or wood unless otherwise noted in sample collection notes (XRF Field sheets).

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

Hazard control options and associated cost estimates for the components identified as containing LBP and that represent current LBP hazards are not included in this report. This information will be provided by the Quincy Department of Planning and Community Development. In an effort to aid 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.

Excluded Components

The following table lists those components and areas which the inspector was not able to test and the reason for which it was not tested. It is recommended that these components and areas be made accessible and be tested so as to determine the presence of lead based paint as soon as possible for the safety of the occupants of this unit. The listed components are not eligible to be defined as present lead based-paint hazards due to the inability to complete the required testing by the Risk Assessor. It is highly recommended that any future disturbance of these components/surface coatings be treated with caution and safety measures. Lead-safe work practices are always recommended.

Area/Location	Component	Reason Not Tested
None		

Key:

UNC=Uncoated

ONA=Inaccessible

ENC=Enclosed

On-going Monitoring

On-going monitoring will be necessary at this property since 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 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 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 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.
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.

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 (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.

Conditions & Limitations

Titan Lead Testing, LLC performed the tasks listed above requested by the owner 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. Titan Lead Testing, LLC 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. Titan Lead Testing, LLC 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 owner 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 Titan Lead Testing, LLC are solely for the benefit of the owner. 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. Titan Lead Testing, LLC assumes no obligation to advise the client of any changes in any real or potential lead hazards at this residence that mayor may not be later brought to its attention. Further conditions and limitations to this report are included in the general terms and conditions supplied to the owner with the contract for services.

Site Information and Field Testing

Resident Questionnaire

A resident questionnaire was completed as part of the Assessment, to help the Client identify particular use patterns, which may be associated with potential LBP hazards, such as opening and closing windows painted with LBP. The answers to the questionnaire were obtained during an interview with the occupants and the homeowner. Following is a summary of the information obtained during that interview:

111 White St., Weymouth, MA 02190

Children in the Household:	One child – 18 Months old
Children’s bedroom locations:	Room 3
Children’s eating locations:	Kitchen
Primary interior play area(s):	Room 1, 2, & 3
Primary exterior play area(s):	C Side
Toy Storage:	Room 1, 2, & 3
Pets:	None
Children’s blood lead testing history:	As per state mandate
Observed chewed surfaces:	None
Women of child bearing age:	One
Previous lead testing:	None
Most frequently used entrances:	Front
Most frequently opened windows:	All
Structure cooling method:	Window Air Conditioning
Gardening – type and location(s):	None
Plans for landscaping:	None
Cleaning regiment:	Daily
Cleaning methods:	Vacuum And Washing
Recently completed renovations:	None
Demolition debris on site:	None
Resident(s) work in lead industry:	None
Planned renovations:	Deleading

Building Conditions Survey

Date of Construction:	1818
Apparent Building Use:	Residential
Setting:	Residential Community
Front Entry Faces:	Southeast
Design:	Two-family
Construction Type:	Wood frame
Lot Type:	Residential
Roof:	Asphalt
Foundation:	Stone
Front Lawn Condition:	Grass
Back Lawn Condition:	Grass/Hardscape
Drip Line Condition:	Grass
Site Evaluation:	Satisfactory
Exterior Structural Condition:	Satisfactory
Interior Structural Condition:	Satisfactory
Overall Building/Site Condition:	Satisfactory

Paint Condition Survey

All painted surfaces at this property were tested for lead using an X-ray fluorescence (XRF) analyzer. A copy of the lead paint inspection report is attached. The locations of all lead-painted surfaces, the XRF reading, and type of hazard (loose paint, accessible, mouthable surface, or moveable, impact surface) are included in the attached inspection report.

Paint Sampling and Testing

LBP testing, conforming to the *HUD Guidelines* and the OHHLHC lead Based Paint Hazard Control Program guidelines was completed at this residence. No paint chip samples were taken. On January 11, 2023, approximately 320 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 ≥ 1.0 mg/cm²) were encountered inside the apartment.

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. These components are listed in the attached inspection reports as containing less than or equal to 0.9 mg/cm². 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 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 a Massachusetts licensed risk assessor employed by Titan Lead Testing, LLC using an x-ray fluorescence (XRF) analyzer manufactured by Heuresis Corporation. The serial number of the XRF used is 1645. Please refer to appendices for the details XRF, dust sampling and soil sampling analytical reports.

XRF Lead-Based Paint Testing Results

The actual XRF results for all painted surfaces at this property are included in the comprehensive lead reports in Appendix A.

Interior Dust Sampling

Dust samples must be collected from a window sill and floor in all rooms of the housing unit where young children will come into contact with dust. A minimum of eight (8) samples plus a blank should be collected. Nine dust wipe samples were collected in the unit in an effort to help 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 and HUD Policy guidance defines the following as hazardous levels for lead dust in residences: floors = 10 ug/ft² (micrograms per square foot); interior window sills = 100 ug/ft². 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 1- 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, no hazardous levels of leaded dust were found, as defined by EPA and HUD.

111 White St., Weymouth MA 02190

Sample #	Location	Component	Sample Size (SF)	Sample Location	Results (ug/ft ²)
1	Room #1	Floor	1.00		<5.00
2	Room #1	Window Sill	0.819	B	<6.11
3	Room #2	Floor	1.00		<5.00
4	Room #2	Window Sill	0.7.81	C	<6.41
5	Room #3	Floor	1.00		<5.00
6	Room #3	Window Sill	0.729	A	<6.86
7	Kitchen	Floor	1.00		<5.00
8	Kitchen	Window Sill	0.653	C	<7.66
9	Blank				<5.00

Dust Wipe Laboratory Information

Laboratory Name and Address	Environmental Hazards Services, LLC 7469 Whitepine Rd. Richmond, VA 23237 Telephone: 800 347 4010
Dust Wipe Analysis Protocol	EPA SW846 7000B
Dust Wipe Medium Used	Lynx Wipes ASTM E-1792
AIHA-LAP, LLC Lab ID	100420

Soil Sampling

The US EPA defines a hazardous level of lead in soil as ≥ 400 ppm in play areas/gardens and ≥ 1200 ppm in non-play areas. As indicated below there are no hazardous levels of lead in soil, as defined by EPA.

Sample #	Type	Location	Comments	Results (mg/kg)
S1	Composite	B Dripline	Grass/Hardscape	66
S2	Composite	C Yard Play Area	Grass/Hardscape	120

Soil Sampling Laboratory Information

Laboratory Name and Address	Environmental Hazards Services, LLC 7469 Whitepine Rd. Richmond, VA 23237 Telephone: 800 347 4010
Soil Analysis Protocol	SW846 7000B
AIHA-LAP, LLC (100420),	11714

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: *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, and tilling and placement of appropriate ground cover over bare soil areas.

Abatement as defined by HUD means any set 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 lead based paint components; the permanent enclosure of LBP with construction materials; the encapsulation of LBP with approved products; and the removal or permanent covering (concrete or asphalt) of soil-lead hazards.

Appendix A: XRF Data

Appendix B: Dust Wipe Sample Analytical Data



Environmental Hazards Services, L.L.C.
 7469 Whitepine Rd
 Richmond, VA 23237
 Telephone: 800.347.4010

Lead Dust Wipe Analysis Report

Report Number: 23-01-01985

Client: Titan Lead Testing
 440 Main Street
 Suite #4
 Stoneham, MA 02180

Received Date: 01/16/2023
Analyzed Date: 01/17/2023
Reported Date: 01/17/2023

Project/Test Address: 111 White St; Weymouth, MA
Collection Date: 01/11/2023

Client Number:
 201847

Laboratory Results

Fax Number:

Lab Sample Number	Client Sample Number	Collection Location	Surface	Total Pb (ug)	Wipe Area (ft ²)	Concentration (ug/ft ²)	Narrative ID
23-01-01985-001	1	R1	FL	<5.00	1.00	<5.00	
23-01-01985-002	2	R1 B	SL	<5.00	0.819	<6.11	
23-01-01985-003	3	R2	FL	<5.00	1.00	<5.00	
23-01-01985-004	4	R2 C	SL	<5.00	0.781	<6.41	
23-01-01985-005	5	R3	FL	<5.00	1.00	<5.00	
23-01-01985-006	6	R3 A	SL	<5.00	0.729	<6.86	
23-01-01985-007	7	KITCHEN	FL	<5.00	1.00	<5.00	
23-01-01985-008	8	KITCHEN C	SL	<5.00	0.653	<7.66	
23-01-01985-009	9	BLANK		<5.00	--	---	

Environmental Hazards Services, L.L.C

Client Number: 201847

Report Number: 23-01-01985

Project/Test Address: 111 White St; Weymouth, MA

Lab Sample Number	Client Sample Number	Collection Location	Surface	Total Pb (ug)	Wipe Area (ft ²)	Concentration (ug/ft ²)	Narrative ID
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Method: ASTM E-1979-17/EPA SW846 7000B

Accreditation #:

Reviewed By Authorized Signatory:



Amanda Lowery

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, area, etc., was provided by the client. Results reported above in ug/ft² are calculated based on area supplied by the client. If the report does not contain the result for a field blank, it is due to the fact that the client did not include a field blank with their samples. These sample results do not reflect blank correction. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.

ELLAP Accreditation through AIHA LAP, LLC (100420), NY ELAP #11714.

Legend	ug = microgram	ug/ft ² = micrograms per square foot	Pb = lead
	mL = milliliter	ft ² = square foot	

ENVIRONMENTAL HAZARDS SERVICES, LLC

Lead Chain of Custody Form

Pg. of

MD 01/16/2023

Company Name		Titan Lead Testing, LLC		Account #		201847											
Company Address		PO Box 760709		City/State/Zip		Melrose, MA 02176											
Phone		781-799-8763		Email		davepesce@gmail.com											
Project Name / Testing Address				111 White St., Unit <u> </u> , Weymouth, MA													
PO Number		<u> </u>		Collected By		David Pesce											
Turn-Around Time		<input type="radio"/> 3 DAY <input type="radio"/> 2 DAY <input checked="" type="radio"/> 1 DAY <input type="radio"/> SAME DAY OR WEEKEND - Must Call Ahead															
Do Submitted Dust Wipe Samples Meet ASTM E1792 Requirements? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																	
SAMPLE TYPES				SAMPLE LOCATION ABBREVIATIONS				SURFACE TYPE FOR DUST WIPES									
Dust Wipe	DW	Air	A	Family Room	FR	Front	F	1st FL	1	Bath	BA	Bedroom	BR	Floor	FL	Window Well	WW
Paint Chip	PC	Soil	S	Living Room	LR	Rear	R	2nd FL	2	Dining	DR	Basement	O	Carpet	CP	Window Sill	SL
Composite Soil	CS	Composite Wipe	CW	Den	DN	Left	LT	Right	RT	Kitchen	KT						

LAB NUMBER	Client Sample ID	Collection Date	Sample Type	Collection Location [LR, KT, BA,]	Surface Type	Area		Paint Chip		Air			
						Length X Width In Inches [Provide paint chip area only if results are needed in mg/cm ²]		mg/cm ²	% by weight	Total Time [minutes]	Flow Rate [L/min]	Total Volume [Liters]	
1	1	01/11/2023	DW	R1	FL	12	x	12					
2	2		DW	R1 B	SL	29.5	x	4					
3	3		DW	R2	FL	12	x	12					
4	4		DW	R2 C	SL	30	x	3.75					
5	5		DW	R3	FL	12	x	12					
6	6		DW	R3 A	SL	30	x	3.5					
7	7		DW	Kitchen	FL	12	x	12					
8	8		DW	kitchen C	SL	47	x	2					
9	9		DW	BLANK	NA		x	NA					
10							x						
11							x						
12							x						
13							x						
14							x						

Released By:	David Pesce	Date:	01/11/2023	Time:	2pm
Signature:					

LAB USE ONLY - BELOW THIS LINE

Received By: H. Humphrey
 Signature:
 Date: 1, 16, 23 Time: 10:56 AM PM

Portal Contact Added

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

23-01-01985



Due Date:
01/17/2023
(Tuesday)
AE

Si

AL

Appendix C: Soil Sample Analytical Data



Environmental Hazards Services, L.L.C.
 7469 Whitepine Rd
 Richmond, VA 23237
 Telephone: 800.347.4010

Lead in Soil Analysis Report

Report Number: 23-01-01988

Client: Titan Lead Testing
 440 Main Street
 Suite #4
 Stoneham, MA 02180

Received Date: 01/16/2023
 Analyzed Date: 01/17/2023
 Reported Date: 01/17/2023

Project/Test Address: 111 White St; Weymouth, MA

Collection Date: 01/11/2023

Client Number:
 201847

Laboratory Results

Fax Number:

Lab Sample Number	Client Sample Number	Collection Location	Concentration ppm (ug/g)	Narrative ID
23-01-01988-001	S1	B DRIPLINE	66	
23-01-01988-002	S2	C YARD PLAY AREA	120	

Method: ASTM E-1979-17/EPA SW846 7000B

Reviewed By Authorized Signatory:

Amanda Lowery

The Reporting Limit (RL) is 10.0 ug Total Pb. All internal quality control requirements associated with this batch were met, unless otherwise noted.

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Unless otherwise noted, samples are reported without a dry weight correction. Sample location, description, area, volume, etc., was provided by the client. If the report does not contain the result for a field blank, it is due to the fact that the client did not include a field blank with their samples. EHS sample results do not reflect blank correction. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.

ELLAP Accreditation through AIHA LAP, LLC (100420), NY ELAP #11714.

LEGEND ug = microgram ppm = parts per million
 ug/g = micrograms per gram

ENVIRONMENTAL HAZARDS SERVICES, LLC

Lead Chain of Custody Form

Pg. of

mp 01/16/2023

Company Name: Titan Lead Testing, LLC		Account #: 201847
Company Address: PO Box 760709		City/State/Zip: Melrose, MA 02176
Phone: 781-799-8763		Email: davepesce@gmail.com
Project Name / Testing Address: 111 White St., Weymouth, MA		
PO Number:	Collected By: David Pesce	
Turn-Around Time:	<input type="radio"/> 3 DAY <input type="radio"/> 2 DAY <input checked="" type="radio"/> 1 DAY <input type="radio"/> SAME DAY OR WEEKEND - Must Call Ahead	

Do Submitted Dust Wipe Samples Meet ASTM E1792 Requirements? Yes No

SAMPLE TYPES				SAMPLE LOCATION ABBREVIATIONS								SURFACE TYPE FOR DUST WIPES					
Dust Wipe	DW	Air	A	Family Room	FR	Front	F	1st FL	1	Bath	BA	Bedroom	BR	Floor	FL	Window Well	WW
Paint Chip	PC	Soil	S	Living Room	LR	Rear	R	2nd FL	2	Dining	DR	Basement	O	Carpet	CP	Window Sill	SL
Composite Soil	CS	Composite Wipe	CW	Den	DN	Left	LT	Right	RT	Kitchen	KT						

LAB NUMBER	Client Sample ID	Collection Date	Sample Type	Collection Location [LR, KT, BA,]	Surface Type	Area		Paint Chip		Air		
						Length X Width In Inches [Provide paint chip area only if results are needed in mg/cm ²]	mg/cm ²	% by weight	Total Time [minutes]	Flow Rate [L/min]	Total Volume [Liters]	
1	H120321	01/16/23	S	B dripline								
2	S2		S	yard play area								
3												
4												
5												
6												
7												
8												
9												
10												
11							X					
12							X					
13							X					
14							X					

Released By: **David Pesce** Date: **01/11/2023** Time: **2 pm**

Signature: _____

LAB USE ONLY - BELOW THIS LINE

Received By: H Humphrey

Signature: [Signature]

Date: 1, 16, 23 Time: 10:58 AM PM

Portal Contact Added

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

23-01-01988 ✓

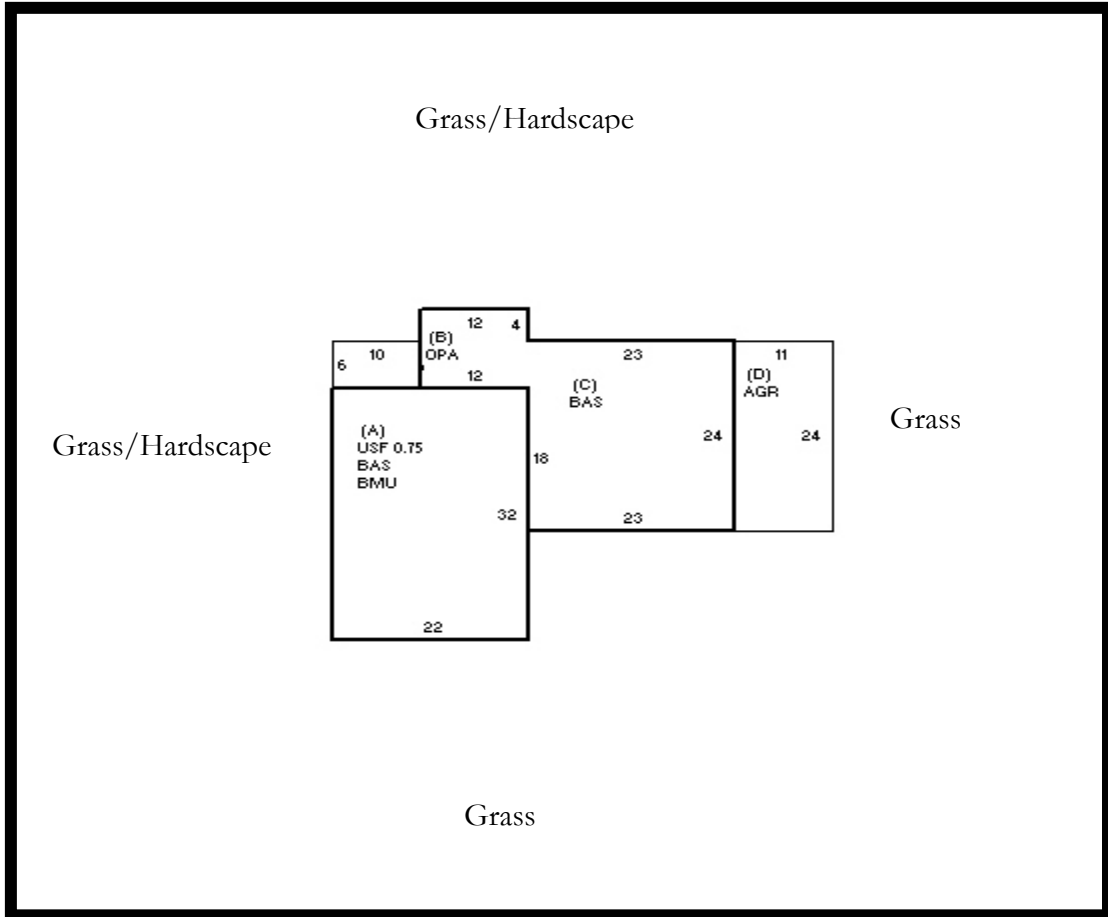
Due Date:
01/17/2023
(Tuesday)
AE

S1

Appendix D

Site Plan

111 White St., Weymouth, MA

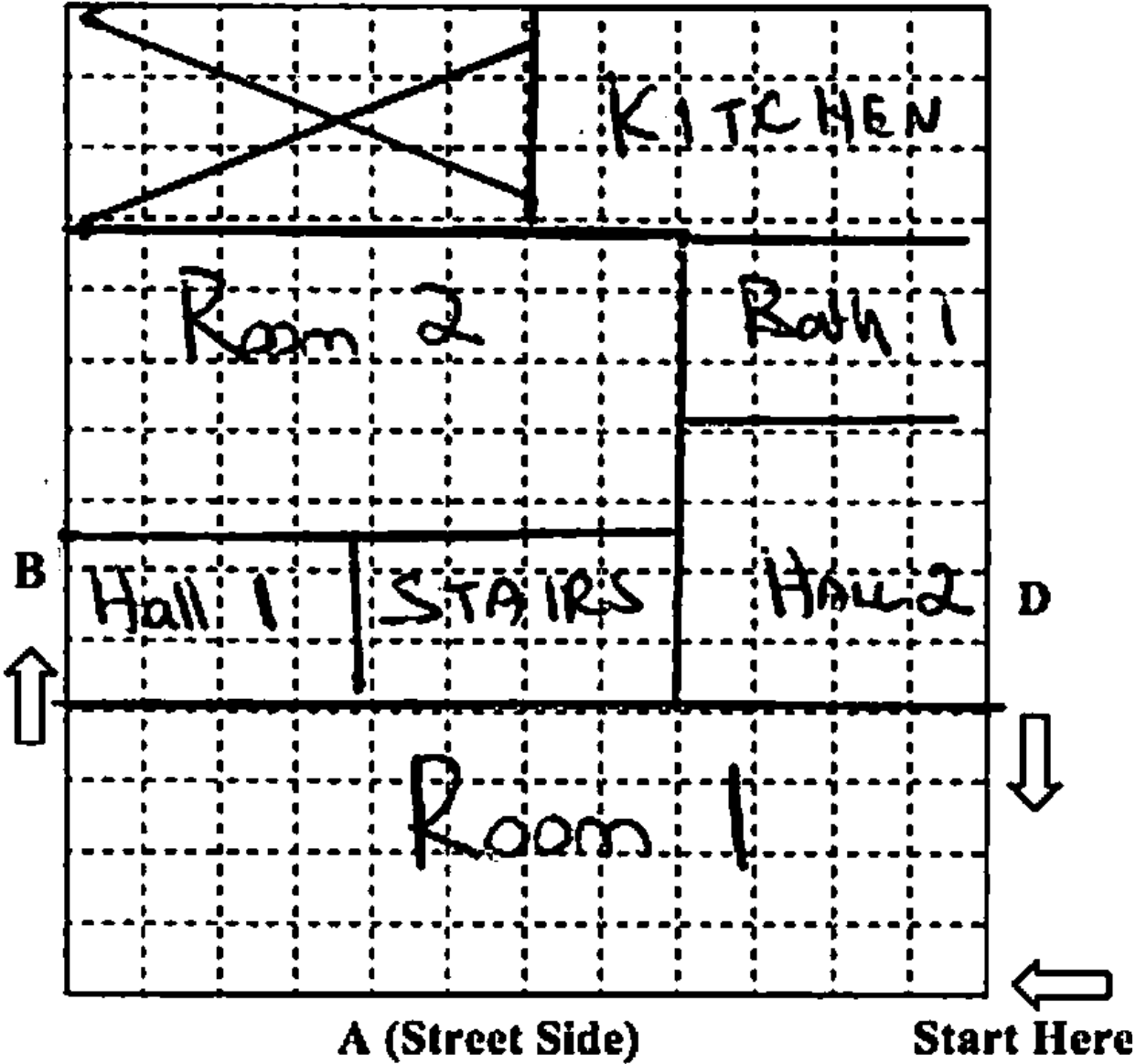


Floor Plan

111 White St., Weymouth, MA

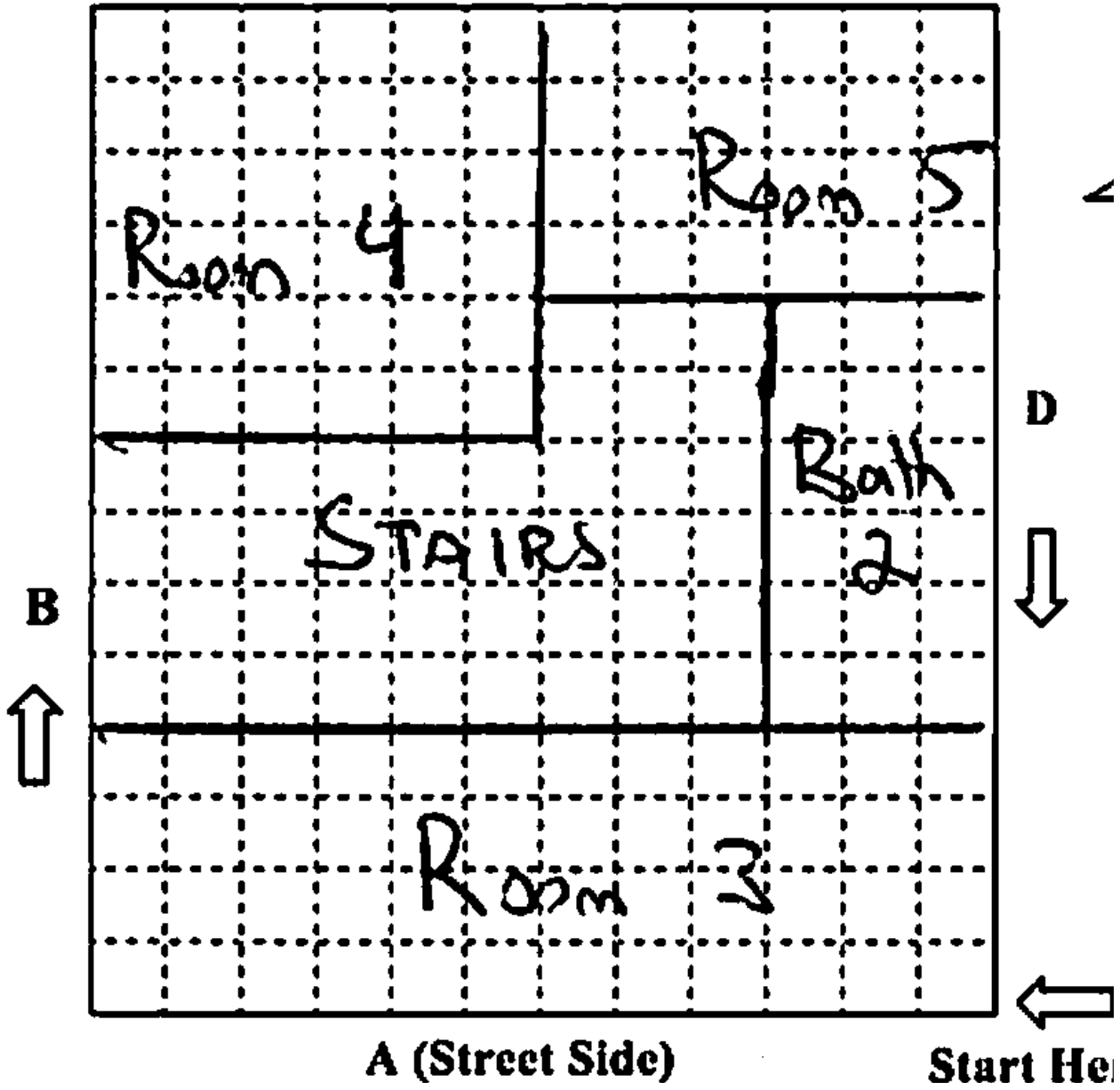
Floor# 1 (level within building of unit being inspected)

C →




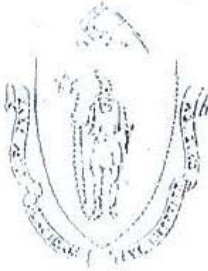
Floor# 2

C →



Appendix E: Copy of Risk Assessor's License/Certification


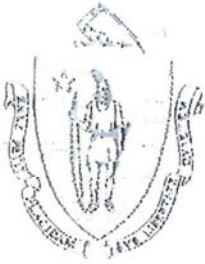
Note: Firms are not licensed in Massachusetts



David Pesce

Master Inspector/Risk Assessor License #: 4025

Expires: 04/26/2022



John Pesce

Master Lead Inspector/Risk Assessor Lic# 1201

Expires: 10/15/2021



The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
250 Washington Street, Boston, MA 02108-4619

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lieutenant Governor

MARYLOU SUDDERS
Secretary

MARGARET R. COOKE
Commissioner

Tel: 617-624-6000
www.mass.gov/dph

September 29, 2022

John Pesce
Titan Lead Testing, LLC
317 East Foster Street
Melrose, MA 02176

Dear John:

This letter is to inform you that your **Master Inspector/Risk Assessors** license has been renewed. Your license will expire on **10/15/2023**. You will receive a renewal reminder in the mail one month prior to your expiration date.

Please continue to use your current random number. A copy of your license will be uploaded to your licensing file.

Please contact me at via email me if you have any questions regarding licensing issues. Thank you for your time.

Sincerely,

Andrea DeMuth

Andrea DeMuth
BEH/CLPPP
Tewksbury Hospital
365 East Street
Tewksbury, MA 01871
978-851-7261 X 4066



The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
250 Washington Street, Boston, MA 02108-4619

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lieutenant Governor

MARYLOU SUDDERS
Secretary

MARGARET R. COOKE
Acting Commissioner

Tel: 617-624-6000
www.mass.gov/dph

April 19, 2022

David Pesce
License Number: 4025

Dear David:

This letter is to inform you that your **Master Inspector/Risk Assessor** license has been renewed. Your license will expire on **4/26/2023**. You will receive a renewal reminder in the mail one month prior to your expiration date.

****Please be sure to print a copy of your license renewal confirmation, a copy will be uploaded in your licensing file.**

Please contact me at via email me if you have any questions.

Thank you for your time.

Sincerely,

Andrea DeMuth

Andrea DeMuth
Program Coordinator II
Bureau of Environmental Health
Department of Public Health
Tewksbury Office
365 East St
Tewksbury, MA 01876
1-800-532-9571 (general information line)
www.mass.gov/dph/clppp

Appendix F: Copy of XRF Training Certificate


CUSTOMER TRAINING

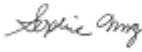
Radiation Safety and Operation of Niton XRF Analyzers


This is to certify that
David Pesce
has successfully completed the one day Thermo Fisher Scientific Niton Analyzer Manufacturer's Training Course. The topics of this course include radiation safety, monitoring, device operation, and machine maintenance of the Niton XRF Analyzer.

(CIH's – The ABIH Awards 1 CM point, approval # 08-354)

Course date: 2009 December 3
Location: Billerica, MA
Certificate Number: 14:200038000000pOAGJ

 Customer Training Certificate


Sophie Ung
Radiation Safety Training Coordinator


James Blute, CHP
Manager of Health and Safety

Part of Thermo Fisher Scientific **Thermo** SCIENTIFIC

NITON[®] corporation

Certificate of Achievement

This is to certify that

John Pesce

*has successfully completed the Manufacturer's Training Course
for the NITON XL Spectrum Analyzer*

*The two-day course covered radiation safety and monitoring,
L x-ray measurement technology, and
machine maintenance of the XL Lead-in-Paint Detector*

94098

Certificate Number

JAN. 13, 1994

Course Date

Director of Training

Paul Rom
President & CEO - NITON

Certificate of Training

David Pesce

Has completed the Heuresis Corp. 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 Heuresis Corporation, Pb200i

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

Jon Stein

Feb 18, 2016

Name

Date

VP of Sales & Marketing

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 Heuresis Corporation.

Name

Date



Certificate of Training

John Pesce

Has completed the Heuresis 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, Pb200i

8 Hour

13 February 2015



Cert#Kate # 000010

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 Heuresis Corporation.

Name

Date



Appendix G: XRF Performance Characteristic Sheets

Niton XLp 300, 9/24/2004, ed. 1

Performance Characteristic Sheet

EDITION NO.: 1

MANUFACTURER AND MODEL:

Make: *Niton LLC*

Tested Model: *XLp 300*¹⁰⁹_{Cd}

Source:

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/cm² (inclusive)

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² 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 not needed for: Brick, Concrete, Drywall, Metal, Plaster, and Wood

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

INCONCLUSIVE RANGE OR THRESHOLD:

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 December 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)						
Substrate	All Data			Median for laboratory-measured lead levels (mg/cm ²)		
	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*.

Performance Characteristic Sheet

EFFECTIVE DATE: December 1, 2015

MANUFACTURER AND MODEL:

Make: *Heuresis*
 Models: *Model Pb200i*
 Source: *⁵⁷Co, 5 mCi (nominal – new source)*

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive)

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL 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 using test results on building components in the HUD archive. Testing was conducted on 146 test samples in November 2015, with two separate instruments running software version 2.1-2 in Action Level test mode. The actual source strength of each instrument on the day of testing was approximately 2.0 mCi; source ages were approximately one year.

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.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm² in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm² film).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm² for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm² at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm². Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.

Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.

For each substrate type (the 1.02 mg/cm² NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):

$$\text{Correction value} = (1\text{st} + 2\text{nd} + 3\text{rd} + 4\text{th} + 5\text{th} + 6\text{th Reading})/6 - 1.02 \text{ mg/cm}^2$$

Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

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.

Conduct XRF re-testing 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 and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the 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 readings.

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

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:

In the Action Level paint test mode, the instrument takes the longest time to complete readings close to the Federal standard of 1.0 mg/cm². The table below shows the mean and standard deviation of actual reading times by reading level for paint samples during the November 2015 archive testing. The tested instruments reported readings to one decimal place. No significant differences in reading times by substrate were observed. These times apply only to instruments with the same source strength as those tested (2.0 mCi). Instruments with stronger sources will have shorter reading times and those with weaker sources, longer reading times, than those in the table.

Mean and Standard Deviation of Reading Times in Action Level Mode by Reading Level		
Reading (mg/cm ²)	Mean Reading Time	Standard Deviation (seconds)
< 0.7	3.48	0.47
0.7	7.29	1.92
0.8	13.95	1.78
0.9 – 1.2	15.25	0.66
1.3 – 1.4	6.08	2.50
≥ 1.5	3.32	0.05

CLASSIFICATION OF RESULTS:

XRF results are classified as **positive** if they are **greater than or equal** to the stated threshold for the instrument (1.0 mg/cm²), and *negative* if they are *less than* the threshold.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) 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. The report may be downloaded at <http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997>.

This XRF Performance Characteristic Sheet (PCS) was developed by QuanTech, Inc., under a contract with the XRF manufacturer.

Appendix H: “LEAD SPEAK” – A BRIEF GLOSSARY

Lead-Based Paint: Paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight.

Lead-Based Paint Hazards: Any condition that causes exposure to lead from dust-lead hazards, soil-lead hazards, or lead-based paint that is deteriorated or present in chewable surfaces, friction surfaces, or impact surfaces, and that would result in adverse human health effects.

Visual Assessment: A visual inspection of interior and exterior surfaces to identify specific conditions that may be lead-based paint hazards. A visual inspection does not identify lead-based paint. The assessment may be performed by a person trained in visual assessment. Training for visual assessment is available on HUD’s website at www.hud.gov/offices/lead.

LEAD HAZARD EVALUATION

Paint Testing: Testing of specific surfaces, by XRF (x-ray fluorescence) or lab analysis, to determine the lead content of these surfaces, performed by a certified lead-based paint inspector or certified risk assessor.

Lead-Based Paint Inspection: A surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation. It is performed by a certified paint inspector or risk assessor.

Risk Assessment: A comprehensive evaluation for lead-based paint hazards that includes paint testing, dust and soil sampling, and a visual evaluation. The risk assessment report identifies lead hazards and appropriate lead hazard reduction methods. A certified risk assessor must conduct the assessment.

Lead Hazard Screen: A limited risk assessment activity that can be performed instead of a risk assessment in units that meet certain criteria (e.g. good condition). The screen must be performed by a certified risk assessor. If the unit fails the lead hazard screen, a full risk assessment must be performed.

Clearance Examination: Clearance is performed after hazard reduction, rehabilitation or maintenance activities to determine if a unit is safe for occupancy. It involves a visual assessment, analysis of dust samples, and preparation of report. The certified risk assessor, paint inspector, or lead sampling technician (called a clearance technician in the HUD regulation) performing clearance must be independent from the entity/individual conducting paint stabilization or hazard reduction.

LEAD HAZARD REDUCTION

Paint Stabilization: An interim control method that stabilizes painted surfaces and addresses the underlying cause of deterioration. Steps include repairing defective surfaces, removing loose paint and applying new paint.

Interim Controls: Set of measures to temporarily control lead-based paint hazards. Interim control methods must be completed by qualified workers using safe work practices. Follow-up monitoring is needed.

Standard Treatments: A complete set of interim control methods that when used together temporarily control all potential lead hazards in a unit. Because they address all conditions, a risk assessment or other evaluation is not needed. Standard treatments must be completed by qualified workers using safe work practices. As with interim controls, follow-up monitoring is needed.

Abatement: Measures to permanently control (i.e., 20 years or more) lead-based paint or lead-based paint hazards. EPA regulations exclude from the definition of abatement “renovation, remodeling, landscaping or other activities, when such activities are not designed to permanently eliminate lead-based paint hazards, but instead are designed to repair, restore, or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead-based paint hazards.” [40 CFR 745.223]

LEAD POISONING

Environmental Intervention Blood Lead Level: The level of lead in blood that requires intervention in a child under age six. This is defined as a blood lead level of 20 µg/dL (micrograms per deciliter) of whole blood or above for a single test, or blood lead levels of 15-19 µg/dL in two tests taken at least three months apart.

KEY UNITS OF MEASUREMENT

µg (Microgram): A microgram is 1/1000th of a milligram (or one millionth of a gram). To put this unit 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.

ft² (Square foot): One square foot is equal to an area that has a length of one foot (12 inches) and a width of one foot (12 inches).

µg/dL: Micrograms per deciliter used to measure the level of lead in children’s blood to establish whether intervention is needed. A deciliter (1/10th of liter) is a little less than half a cup. As noted above, a microgram is the same weight as one penny divided into two million parts.

µg/gram: Micrograms per gram of sample, equivalent to parts per million (ppm) by weight. Used to measure lead in soil.

µg/ft²: Micrograms per square feet is the measurement used to measure levels of lead in dust samples. The clearance report should have the dust sampling results listed in µg/ft² (micrograms per square foot).

mg/cm²: Milligrams per square centimeter. Used to measure lead in paint.

percent: Percent by weight, used usually for lead-based paint (1 percent = 10,000 µg/gram)

ppm: Parts per million by weight, equivalent to µg/gram (10,000 ppm = 1 percent). Used to measure lead in paint and soil.

LEAD-BASED PAINT STANDARDS

Paint – Definition of Lead-Based Paint

Paint or other surface coatings that contain at least:

- 1 milligram per centimeters square (mg/cm²) of lead;
- 0.5 percent lead; or 5,000 parts per million lead by dry weight.

*In 1978 the Consumer Product Safety Commission banned the residential use of lead-based paint that contained greater than or equal to 0.06 percent or 600 ppm of lead.

Dust – Federal Thresholds for Lead-Contamination (Risk Assessment/Clearance)

- Floors 40 µg/ft²
- Interior window sills 250 µg/ft²
- Window troughs (Clearance only) 400 µg/ft²

Soil – Federal Thresholds for Bare Soil Contamination

- Play areas used by children under age 6 400 µg/gram
- Other areas, if more than 9ft² in total area of bare soil per property 2000 µg/gram
- Abatement required by HUD 5,000 µg/gram



The Commonwealth of Massachusetts

Executive Office of Health and Human Services Department of Public Health
Bureau of Environmental Health Childhood Lead Poisoning Prevention Program
250 Washington Street, 7th floor, Boston, MA 02108 (800) 532-9571

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JOHN AUERBACH COMMISSIONER

NOTICE TO PROPERTY OWNERS AND TENANTS:

TENANT’S RIGHTS AND RESPONSIBILITIES

Violations

Lead paint violations under the Lead Law and the state Sanitary Code have been found in the home or apartment listed in the attached documents. These violations may be a danger to the health of the people living in the home or apartment. Children younger than six years old are at the most risk of being lead poisoned. Lead can damage a child’s growing brain and other parts of the body. Even small amounts of lead can harm a child.

The owner of this home or apartment is responsible for removing or covering the lead violations. (This is called deleading.)

Legal Rights and Responsibilities

For these lead violations to be delead as quickly and safely as possible, it helps if both the owner and the tenant cooperate with each other. It is important that tenants and owners know their rights under state law. Because the laws are not simple, tenants may need to get legal help and/or legal advice before trying to use the rights found below.

- (1) Temporary Housing. (Massachusetts General Laws chapter 111, section 197) Tenants and their pets **must** be temporarily moved out of the home or apartment for the whole time that high-risk or moderate-risk deleading work is taking place inside the home or apartment. They cannot return until that work is done, the unit is cleaned up and a licensed lead inspector finds that the home or apartment is safe.

The owner and tenants have to agree on a plan for temporary housing. If the tenants choose to move in with family or friends they do not have to pay rent to their landlord while they are out of their home. If they do not so choose, the owner finds the temporary housing and offers it to the tenant. The Law requires that owners pay any charges for the temporary housing the owner offers, and that tenants continue to pay their full normal rent during the time they live in the temporary housing. The temporary housing must be one that “does not cause undue economic or personal hardship to the tenant.” If the temporary housing chosen by the owner would not cause a hardship, and the tenant still refuses to accept it, then the tenant has to find and arrange for his or her own temporary

housing during deleading. In this case, the tenant doesn't have to pay rent for the days he or she is not at home, but has to pay the cost of the temporary housing he or she has chosen. In this case, the owner has to pay the tenant any amount by which the cost of the temporary housing first chosen by the owner is more than the rent for that period. No matter where the tenant stays, the owner must pay reasonable moving costs. Tenants are advised to get legal help if they can not agree with the owner on a plan.

- (2) Protection from Retaliatory Rent Increase or Eviction. A property owner may not evict a tenant, or increase the rent or refuse to renew the lease of a tenant in retaliation (getting even) for the tenant reporting a suspected lead paint violation to a code enforcement agency such as the local board of health. If the rent is raised, or tenants get an eviction notice or their lease is not renewed within **six** months after the tenants called the board of health or got their home delead, a court can automatically find that the owner took this action in retaliation **unless** the owner can show clear evidence that he or she had other reasons, unrelated to the violations. **An eviction based on not paying the rent is not retaliatory.** Property owners who are found to have threatened or taken actions against tenants for exercising rights under the Lead Law are liable for damages under M.G.L. c. 186, s. 18 and M.G.L. c. 93A. A tenant who believes that the owner has retaliated against him or her because of lead violations may also file a complaint with the Massachusetts Commission Against Discrimination (MCAD).
- (3) Rent Withholding. (Massachusetts General Laws chapter 239, section 8A) Tenants have a basic obligation to pay rent for their home or apartment to the owner. But, if lead violations are not being delead, tenants may have a right to hold back their rent payments. Tenants may take this step **only** if they were up to date in their rent at the time the owner was notified of the lead paint violations, and they did not begin withholding until this point. Owners have the right to go to court to evict tenants for not paying rent. To fully protect themselves against attempted evictions, tenants withholding rent for Lead Law violations may need to place withheld rent money in an escrow (separate savings) account, or may be ordered to do so by the court. If these conditions are met, tenants may not be evicted for not paying rent or for any other violation that is not the tenants' fault. Owners have the right to enter the tenants' home or apartment, if possible by appointment, but in any case in emergencies, to inspect for lead violations and to have them repaired. Tenants have a responsibility to cooperate with owners and allow all necessary access to their home or apartment for repairs. Tenants who do not cooperate with this right of entry may be subject to eviction. If rent was withheld, the court may order that all or part of the withheld rent be paid to the owner after the violations are delead.
- (4) Abatement of Rent or Damages. Even when the rent withholding statute does not apply, tenants may be able to have their rent reduced or get back rent they have already paid, if their home or apartment has Lead Law violations. The landlord always has a duty to provide housing that meets basic housing standards. A tenant can bring a court action for breach of this "implied warranty".
- (5) "Rent Receivership". (Massachusetts General Laws, chapter 111, sections 127C -127J)

This law allows tenants, the state Childhood Lead Poisoning Prevention Program or the local board of health to ask the court to find that Lead Law violations exist, and to allow rent to be paid into court rather than to the owner, to pay for necessary repairs.

- (6) Owner Liability: Compensatory and Punitive Damages. (Massachusetts General Laws chapter 111, section 199) The owner of a home or apartment built before 1978 is liable for damages to a child under age six who becomes lead poisoned as a result of the owner's failure to comply with the Lead Law and regulations. The owner of such home or apartment who is notified through an Order to Correct Violations or Order to Restore Interim Control Measures of lead violations, and who willfully fails to correct the violations, in accordance with the Lead Law and Regulations, is also subject to punitive damages, which are triple the actual damages found.

NOTE: All the information presented above is only a summary of the law. Before you decide to withhold your rent or take any other legal action, it is advisable that you consult an attorney. If you can not afford to consult an attorney, you should contact the nearest Legal Services office.

Repainting

Violations of the Lead Law are also violations of the state Sanitary Code. Surfaces from which lead paint or other coatings have been removed have to be repainted under 105 CMR 410.020 of the state Sanitary Code. Delead surfaces have to be sealed and made easy to clean. Delead surfaces can only be repainted **after** the surfaces have been reinspected while bare and approved by a licensed lead inspector.

Tenants may want to contact the owner if the required repainting is not done. If the owner does not respond, tenants should call the local board of health.