

Lead Inspection & Risk Assessment Report

FOR THE PROPERTY AT:

1316 Jerome Street

Lansing MI 48912

Date of Construction: 1914



ETC Job #: 269011

Prepared For

Ingham County Land Bank

3024 Turner Street

Lansing, MI 48906

517-267-5221

Date of Inspection: 05/06/2024

Date of Report: 05/20/2024

Report Prepared and Submitted By:

Brandon Lee

Michigan Certification: P-08246

XRF Serial Number: 1814



38900 West Huron River Drive

Romulus, MI 48174

734-955-6600

www.2etc.com

TABLE OF CONTENTS

LEAD INSPECTION & RISK ASSESSMENT REPORT	1
PURPOSE OF ENVIRONMENTAL INVESTIGATION	3
KEY DEFINITIONS.....	3
LEAD TESTING	4
RESULTS & RECOMMENDATIONS.....	4
APPENDICES	19
APPENDIX A – RESIDENT INTERVIEW.....	19
APPENDIX B – SITE INFORMATION	21
APPENDIX C – LEAD: EDUCATION, TESTING, RESOURCES & LAWS	36
APPENDIX D – ALL XRF RESULTS & DEVICE USED	43
APPENDIX E – LABORATORIES USED & ORIGINAL LABORATORY ANALYSIS REPORTS	61

Purpose of Environmental Investigation

The purpose of this report is to share lead-testing results. *Please refer to Appendix C-3 for your future responsibilities as they relate to this report.* Use the “Key Definitions” below as a guide when reading the results. **Floor plan maps are provided in Appendix B-3 – use these as a guide when reading the results.** See Appendix C for information about lead hazards and abatement versus interim control options.

KEY DEFINITIONS

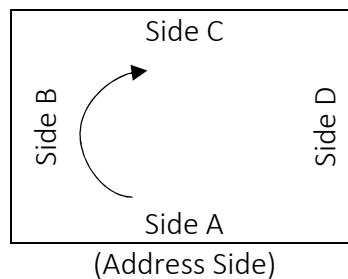
Component: The surface tested.

Examples: door, door trim, wall, ceiling, exterior siding, etc.

Substrate: The type of material.

Examples: plaster, wood, metal

Side: The location of tested area or item. Side A is always the address side of the building. Sides B, C, and D move in a clockwise direction from Side A.



Condition: The condition of the paint on the surface tested.

Intact means undamaged or in one piece.

Deteriorated means damaged, worn, or in bad shape.

Color: The color of the surface tested.

Floor: The floor of the building.

Basements identified are “Floor 0.”

Room: The room testing occurred. Rooms are identified by a number because room usage may change (i.e., a bedroom may become an office). Kitchens and bathrooms are not numbered.

Result: Indicates if the component/surface tested is Positive or Negative for lead.

Teeth: Indicates if teeth marks are present.

Fric-Imp: Friction-Impact occurs when two components rub or come into contact repeatedly.

Lead Testing

RESULTS & RECOMMENDATIONS

The table below details all of the lead-hazards found in your home.

TABLE 1: ALL LEAD-HAZARDS

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Hazards throughout Home				
Dust levels in some window troughs / wells within the home were found to have elevated lead levels. Therefore, all window troughs should be considered to be lead contaminated.	2	2	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the entire house for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the entire house for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.
Dust levels in some window sills / stools within the home were found to have elevated lead levels. Therefore, all window sills should be considered to be lead contaminated.	1	1	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the entire house for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the entire house for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.
Dust levels on some floors within the home were found to have elevated lead levels. Therefore, all floors should be considered to be lead contaminated.	1	1	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the entire house for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the entire house for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Dust levels on some porch/deck floors outside the home were found to have elevated lead levels. Therefore, all exterior floors should be considered to be lead contaminated.	1	1	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the exterior floors for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.	The risk assessor believes that these high lead levels were caused by other lead hazards dealt with below. Therefore, after having completed all other abatement / interim control options, clean the exterior floors for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.
The paint chips found in the window troughs of all the wooden windows are hazards.	1	1	Remove all visible paint chips.	Remove all visible paint chips.
Hazards on Property (Not Home)				
Soil levels in the bare soil areas of the front yard were found to be elevated for lead content.	2	1	1) Remove top 6 inches of soil and replace with new soil then seed to grass, cover with ground cover or 2) enclose with concrete or asphalt.	Clean soil surface of any paint chips or LBP debris, blend top 6 inches of soils with those below by tilling, cover with landscape fabric and groundcover (woodchips, decorative stone, etc.).
Living Room # 2				
Side A Door Jamb Ext. represents a deteriorated lead friction surface hazard.	1	1	1) Remove and replace with new door systems or 2) replace individual lead painted components or 3) strip all surfaces on both sides of the door bare to the substrate, stabilize surfaces, and repaint.	1) Refit door to eliminate friction points, wet scrape/sand all surfaces, make necessary repairs, including installation of weatherstripping or other "soft" stop material, stabilize all surfaces and repaint 2) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 3) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Side A Window Jamb & Trough-Well represent deteriorated lead friction hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side A Window Sash Ext. was inaccessible due to having a storm window. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side B Window Well-Trough & Jamb were inaccessible due to being warped shut/fixd. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Exterior House # 17				
Side A Porch Ceiling, Beam, Column & Rail represent deteriorated lead paint surface hazards.	1	1	1) Remove and replace with new components or 2) strip all surfaces bare to the substrate, make necessary repairs and recoat.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Side A Door Casing represents a deteriorated lead paint surface hazard.	1	1	1) Remove and replace with new door systems or 2) replace individual lead painted components or 3) strip all surfaces on both sides of the door bare to the substrate, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side A 1st Floor Window Casing & Sill-Stool represent deteriorated lead paint surface hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side D Wood Wall (where a portion of the vinyl siding is missing) represents a deteriorated lead paint surface hazard.	2	2	1) Enclose with drywall or other suitable wallboard material or 2) wet scrape/sand all surfaces, make necessary repairs, stabilize surfaces and encapsulate with a Michigan approved encapsulant.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side D2 1 st Floor Window Casing & Side C Window Casing & Sill-Stool represent deteriorated lead paint surface hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side B2 Wall (around Dining Room 3 windows) represents a deteriorated lead paint surface hazard.	2	2	1) Remove and replace with new components or 2) strip all surfaces bare to the substrate, make necessary repairs and recoat.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Side B1 Window Casing & Sill-Stool were inaccessible due to being out of reach due to overgrown brush. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side B2 Window Casing was inaccessible due to being out of reach due to overgrown brush. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side A All 2 nd Floor Window Sills-Stools were inaccessible due to being out of reach. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Sides B & C All 2nd Floor Window Casings were inaccessible due to being out of reach. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side A All 3rd Floor Window Casings were inaccessible due to being out of reach. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Stairwell # 6				
Sides B & D Walls represent deteriorated lead paint surface hazards.	1	1	1) Enclose with drywall or other suitable wallboard material or 2) wet scrape/sand all surfaces, make necessary repairs, stabilize surfaces and encapsulate with a Michigan approved encapsulant.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side C Stair Riser represents a deteriorated lead paint surface hazard.	1	1	1) Remove and replace with new components or 2) strip all surfaces bare to the substrate, make necessary repairs and recoat.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Bedroom # 8				
Side A Window Well-Trough & Jamb represent deteriorated lead paint surface hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Bedroom # 9				
Side A Window Well-Trough & Jamb represent deteriorated lead paint surface hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Bedroom #14				
Side A3 Window Sash Ext. & Stop Ext. represent deteriorated lead paint surface hazards.	1	1	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Sides A1 & A2 3rd Floor Window Sashes Ext. & Stops Ext. were inaccessible due to being warped shut/fixe. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Dining Room # 3				
Sides B All & C Window Wells-Troughs & Jambs were inaccessible due to being warped shut/fixe. These components were of similar construction and visually exhibited a similar painting history to other components tested. Therefore, they were considered part of a testing combination and must be lead paint hazards.	2	2	1) Remove and replace with new replacement windows or 2) replace individual lead painted components or 3) enclose all lead painted surfaces or 4) strip all surfaces bare to the substrate, make necessary repairs, stabilize surfaces, and repaint.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Entire Home				
<u>After having completed all other abatement and interim control options.</u>	NA	NA	After completing all abatement and interim control options clean the entire home for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.	After completing all abatement and interim control options clean the entire home for lead dust thoroughly using the accepted HEPA-Wash cleaning methods.

* Severity: 1 = most severe; 2 = very severe; 3 = somewhat severe

**Priority: 1 = high priority; 2 = medium priority; 3 = low priority

RESULTS OF TESTED SURFACES

The following tables detail levels of lead found in paint, dust, and soil on your property.

Positive Lead-Paint Results

All paint testing results in Appendix D.

TABLE 2: POSITIVE LEAD-PAINT RESULTS

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
9	2	Positive	Cabinet Front	A	-	Brown	INTACT	Wood	Basement	1	-	-	-
10	1.6	Positive	Cabinet Door	A	-	Brown	INTACT	Wood	Basement	1	-	-	-
11	5.3	Positive	Clos. Door	C	-	White	INTACT	Wood	Basement	1	-	-	-
12	2.9	Positive	Clos. Door Casing	C	-	White	INTACT	Wood	Basement	1	-	-	-
25	18	Positive	Door Jamb Ext.	A	-	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
31	18.4	Positive	Win. Jamb	A	-	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
32	17	Positive	Win. Well-Trough	A	-	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
98	2.2	Positive	Wall	B	-	White	Deteriorated	Drywall	Stairwell	6	Moisture	No	No
99	1.7	Positive	Wall	D	-	White	Deteriorated	Plaster	Stairwell	6	Moisture	No	No
107	7.8	Positive	Stair Riser	C	-	White	Deteriorated	Wood	Stairwell	6	Impact	Yes	No
134	23.6	Positive	Win. Well-Trough	A	-	White	Deteriorated	Wood	Bedroom	8	Weather	Yes	No
135	15.9	Positive	Win. Jamb	A	-	White	Deteriorated	Wood	Bedroom	8	Friction	Yes	No
159	28.5	Positive	Win. Well-Trough	A	-	White	Deteriorated	Wood	Bedroom	9	Weather	Yes	No
160	17.2	Positive	Win. Jamb	A	-	White	Deteriorated	Wood	Bedroom	9	Friction	Yes	No
258	1.7	Positive	Win. Sash Ext.	A	3	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
259	19.7	Positive	Win. Stop Ext.	A	3	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
302	13.1	Positive	Porch Ceiling	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
303	23	Positive	Porch Beam	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
304	8.9	Positive	Porch Column	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
305	24.5	Positive	Porch Rail	A	-	White	Deteriorated	Wood	Exterior House	17	Friction	Yes	No
307	21.5	Positive	Door Casing	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
309	18.4	Positive	Win. Casing	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
310	23.1	Positive	Win. Sill-Stool	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
312	14.7	Positive	Wall	D	-	Grey	Deteriorated	Wood	Exterior House	17	Weather	No	No
313	6.9	Positive	Win. Casing	D	2	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
316	16.6	Positive	Win. Casing	C	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
317	2.4	Positive	Win. Sill-Stool	C	-	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
319	13.9	Positive	Wall	B	-	White	INTACT	Wood	Exterior House	17	-	-	-
320	16.8	Positive	Wall	B	2	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-1	Assumed	Positive	Win. Sash Ext.	A	-	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
A-2	Assumed	Positive	Win. Casing	B	1	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-3	Assumed	Positive	Win. Sill-Stool	B	1	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
A-4	Assumed	Positive	Win. Casing	B	2	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-5	Assumed	Positive	Win. Sill-Stool	A	(All)	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
A-6	Assumed	Positive	Win. Casing	B	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-7	Assumed	Positive	Win. Casing	C	(All)	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-8	Assumed	Positive	Win. Casing	A	(All)	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-9	Assumed	Positive	Win. Sash Ext.	A	1	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-10	Assumed	Positive	Win. Stop Ext.	A	1	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-11	Assumed	Positive	Win. Sash Ext.	A	2	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-12	Assumed	Positive	Win. Stop Ext.	A	2	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-13	Assumed	Positive	Win. Well-Trough	B	-	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
A-14	Assumed	Positive	Win. Jamb	B	-	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
A-15	Assumed	Positive	Win. Well-Trough	B	(All)	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
A-16	Assumed	Positive	Win. Jamb	B	(Al)	White	Deteriorated	Wood	Dining Room	3	Friction	Yes	No
A-17	Assumed	Positive	Win. Well-Trough	C	-	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
A-18	Assumed	Positive	Win. Jamb	C	-	White	Deteriorated	Wood	Dining Room	3	Friction	Yes	No

HUD reporting limits for positive XRF results are ≥ 1.0 mg/cm² (milligrams per square centimeter) for painted or glazed surfaces.

Dust Wipe Sample Results

TABLE 3: DUST WIPE SAMPLE RESULTS

SAMPLE #	ROOM/ WIPE LOCATION	SURFACE TESTED		LEAD HAZARD?	LAB RESULT (µG/FT ²)
		HF	CF		
FB1	Field Blank			No	N/D
DW01	Living Room 2	HF		Yes	51.4
DW02	Living Room 2 Side A	T		Yes	764
DW03	Dining Room 3	HF		Yes	132
DW04	Dining Room 3 Side C	S		No	76.6
DW05	Kitchen 4	HF		Yes	1070
DW06	Kitchen 4 Side D	T		Yes	235
DW07	Kitchen 4 Side D	S		Yes	881
DW08	Bedroom 9	HF		Yes	6010
DW09	Bedroom 9 Side A	T		Yes	135
DW10	Bedroom 10	HF		Yes	48.3
DW11	Bedroom 10 Side C	S		Yes	207
DW12	Bathroom 11	HF		Yes	219
DW13	Bathroom 11 Side C	T		No	41.5
DW14	Porch Side A	HF		Yes	174
DW15	Porch Side C	HF		No	22.0

For all HUD/Medicaid projects lead action levels for dust: Floors = 10 µg/ft² (micrograms per square feet); Porches = 40 µg/ft²; Window stools/interior sills = 100 µg/ft²; Window troughs = 100 µg/ft². BRL = Below Reporting Limits. N/D = Not Detected.

Soil Sample Results

TABLE 4: SOIL SAMPLE RESULTS				
SAMPLE #	LOCATION OF BARE SOIL AREA	APPROXIMATE AREA IN SQUARE- FEET (FT ²)	LEAD HAZARD?	LAB RESULT IN PARTS PER MILLION (PPM)
SS-1	Bare Soil Side A	20	Yes	1500
SS-2	House Dripline Side A	18	No	388
SS-3	House Dripline Side D	22	No	141
SS-4	Bare Soil Side C	20	No	<10.3

EPA and HUD lead action levels: Soil – at 1,200 ppm; Child play areas and gardens – at 400 ppm or more. BRL = Below Reporting Limits. N/D = Not Detected.

Other Surface Sample Results

The table below details all non-painted surfaces that were tested. Testing these surfaces can help find other sources of lead-exposure. These surfaces are not required to be tested.

TABLE 5: OTHER SURFACE SAMPLE RESULTS			
SURFACE/ITEM DESCRIPTION	LOCATION	MATERIAL	RESULT (MG/CM ²)
N/A	N/A	N/A	N/A

Items listed above were tested using an XRF. The results are limited because the surfaces tested do not comply with the devices testing ability. **Positive lead results are in bold.** These items may be a potential source of lead exposure. [mg/cm² = milligrams per square centimeter]

SURFACES UNABLE TO BE TESTED

A lead investigation requires testing all painted surfaces. Some painted surfaces in your home may be out of reach. These surfaces are not tested. Surfaces out of reach that are not tested are assumed to contain lead-based paint. If the paint looks deteriorated, the surface is assumed to be a lead-based paint hazard. The table below details all of the untested painted surfaces. It also details why the surface was not tested.

TABLE 6: SURFACES UNABLE TO TEST

ROOM	COMPONENT	REASON NOT TESTED
Living Room 2 – (Side A)	Window Sash Ext.	Storm Window
Living Room 2 – (Side B)	Window Well-Trough & Jamb	Warped Shut/Fixed
Dining Room 3 – (Side B All)	Window Well-Trough & Jamb	Warped Shut/Fixed
Dining Room 3 – (Side C)	Window Well-Trough & Jamb	Warped Shut/Fixed
Bedroom 14 – (Sides A1 & A2)	Windows Sashes Ext. & Stops Ext.	Warped Shut/Fixed
Exterior House 17 – (1 st Floor Side B1)	Window Casing & Sill-Stool	Out of Reach – Overgrown Brush
Exterior House 17 – (1 st Floor Side B2)	Window Casing	Out of Reach – Overgrown Brush
Exterior House 17 – (2 nd Floor Side A All)	Window Sill-Stool	Out of Reach
Exterior House 17 – (3 rd Floor Side A All, 2 nd Floor Side B & 2 nd Floor Side C All)	Window Casings	Out of Reach

HUD reporting limits for positive XRF results are ≥ 1.0 mg/cm² (milligrams per square centimeter) for painted or glazed surface.

POTENTIAL HAZARDS

Lead can exist in your home and not be a hazard. The table below details all surfaces found to contain lead but are not current hazards. Please make a note of these surfaces and remember to monitor them for changes. Any changes could make the surface a lead-hazard, which will alter severity and priority levels and require lead hazard control options. Refer to Appendix C-3 for ways to monitor.

TABLE 7: POTENTIAL HAZARDS

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
9	2	Positive	Cabinet Front	A	-	Brown	INTACT	Wood	Basement	1	-	-	-
10	1.6	Positive	Cabinet Door	A	-	Brown	INTACT	Wood	Basement	1	-	-	-
11	5.3	Positive	Clos. Door	C	-	White	INTACT	Wood	Basement	1	-	-	-
12	2.9	Positive	Clos. Door Casing	C	-	White	INTACT	Wood	Basement	1	-	-	-
319	13.9	Positive	Wall	B	-	White	INTACT	Wood	Exterior House	17	-	-	-

HUD reporting limits for positive XRF results are ≥ 1.0 mg/cm² (milligrams per square centimeter) for painted or glazed surfaces.

Inspector Certification

The information contained in this report is a true and accurate representation of the conditions and activities at this property at the time of this investigation, based on the professional judgment of the person(s) who conducted and reported this Environmental Investigation. If soil samples were not collected as indicated in Table 4 due to snow, these samples will be collected at the earliest opportunity. An amended report will be sent with any soil hazards found and corrective action options.



Brandon Lee

Michigan Certified Lead Inspector/Risk Assessor: P-08246

Risk Assessor E-Mail: Brandon.Lee@2etc.com

Appendices

APPENDIX A – RESIDENT INTERVIEW

The purpose of this interview is to help find where to take dust and soil samples. Questions will help find:

- Most frequently used entrances and windows.
- Areas where children sleep, eat, and play.
- Recent renovations.
- Etc.

Resident Interview Questions & Responses:

This house is currently: Not Occupied

Person interviewed: N/A

Relationship to child: N/A

FAMILY USE PATTERNS	
QUESTION	RESPONSE
Which entrances are used most frequently?	N/A
Are there floor mats at entrances to the home?	No
Do occupants take shoes off at the door?	N/A
Which windows are opened most frequently?	N/A
Is there a window fan that is used during summer months?	N/A
Are window air conditioner used?	No
I need to dust test the window sill in this room for lead. When was the last time it was wiped down?	N/A
Does your family eat food grown in a garden?	N/A
Does your child play in this garden?	N/A
What cleaning methods do you use at home?	N/A
Which areas of the home get cleaned regularly?	N/A
Which areas of the home do NOT get cleaned regularly?	N/A

OTHER HOUSEHOLD RISK FACTORS	
QUESTION	RESPONSE
Do you have a dog, cat, or other pet that could track soil or dust inside?	N/A
Does your child have access to any of the following?	
<input type="checkbox"/> Industrial (big) crayons or markers <input type="checkbox"/> Paints <input type="checkbox"/> Dyes <input type="checkbox"/> Coloring pigments <input type="checkbox"/> Putty	<input type="checkbox"/> Detergents <input type="checkbox"/> Batteries <input type="checkbox"/> Gear oil <input type="checkbox"/> Pipe sealants
<input type="checkbox"/> Shellacs <input type="checkbox"/> Lacquers <input type="checkbox"/> Epoxy resins <input type="checkbox"/> Pesticides	N/A

FREQUENT AREAS CHILD VISITS

QUESTION				RESPONSE
Is your child cared for away from home?				N/A
Child Name	Type of Care	Location of Care/Address	Number of Hours/Weeks at Location	
N/A	N/A	N/A	N/A	

Where does your child like to sleep, eat, and play?

Child	Age	Bedrooms	Eats	Plays Indoors	Plays Outdoors
N/A	N/A	N/A	N/A	N/A	N/A

ELEVATED BLOOD LEAD LEVEL INFORMATION

QUESTION					RESPONSE
Do any of the above children have a known elevated blood lead level test?					N/A
Child	Test Results (µg/dL)	Venous (V) or Capillary (C)	Date of Tests	Notes	
N/A	N/A	N/A	N/A	N/A	

CHILD BEHAVIOR RISK FACTORS

QUESTION	RESPONSE
Does your child suck his/her fingers or thumb?	N/A
Does your child put painted objects into their mouth?	N/A
Are there any areas of peeling paint on walls, ceilings, stairs, woodwork, furniture or toys?	Yes
Does your child chew on painted surfaces, such as painted cribs, window sills, furniture edges, railings, door moldings, or broom handles?	N/A
Are there bite marks found anywhere in the home, such as child's crib, furniture or window sills?	No
Does your child chew or eat paint chips or pick at painted surfaces?	N/A
Does your child put soft metal objects in the mouth? (Ex: pewter, metal toy soldiers, jewelry, gunshot, bullets, beads, fishing sinkers, electronics)	N/A
Does your child put printed material (newspapers, magazines) in their mouth?	N/A
Does your child eat without washing hands before meals or snacks?	N/A
When was the last time the toys were washed?	N/A
Pacifiers?	N/A
Are there bare soil areas where the child likes to play?	N/A
On a typical week this past summer, how much time did your child play outside in your yard?	N/A
Has the child been seen eating soil?	N/A
Does child use or play in common areas shared with other units?	N/A

APPENDIX B – SITE INFORMATION

B-1: General Property Description:

The overall condition of the house is fair. The exterior of the house is vinyl sided and wood and the exterior trim is exposed. The windows in the house are post 1978 glass block and wood and the basement windows are post 1978 glass block. The windows in Rooms 1-3 are fixed. The entry doors are steel pre-hung and the sliding doors are wood. The cabinets in Kitchen 4 are prefabricated. There are ceiling tiles in Rooms 8-10 and 12. The exterior porches/decks are post 1978 pressure treated lumber. There is no garage present.

B-2: Building Condition

Exposure to lead is usually from lead-based paint. Lead-based paint becomes a source of lead exposure when the paint is deteriorated. Deteriorated paint is paint that is chipping or chalking, and may be caused by poor building conditions. A leaky roof is an example of a poor building condition that can cause paint to become deteriorated. Lead work cannot begin before building conditions causing paint to deteriorate are fixed. The building condition survey helps find these areas. “Yes” responses mean the building condition is poor and needs fixing.

BUILDING CONDITION SURVEY QUESTIONS & RESPONSES

GENERAL PROPERTY CONDITION	
QUESTION	RESPONSE
What year was this building built?	1914
Has there been any lead testing done to this property within the last year?	N/A
Were any external renovations done on a neighboring property? Repainting, remodeling, renovation, window replacement, sanding, scraping or power washing painted surfaces inside or outside of the home?	N/A
Have nearby buildings or structures (bridge, water tower, homes, etc.) recently been repainted, demolished or burned?	N/A
Were any home renovations done to your home within the past year?	N/A
Are you planning any building renovations?	N/A
Are you or the landlord planning any landscaping activities?	N/A
Is building debris stored in the yard?	No
Other notable conditions:	None

EXTERIOR BUILDING CONDITION

QUESTION	RESPONSE
Is exterior siding missing components?	Yes Side D
Is the roof missing parts?	No
Does the roof have holes or large cracks?	No
Are gutters or downspouts broken?	No
Are there two or more windows or doors missing, broken or boarded up?	No
Does the porch or steps have major cracks, missing materials, structural leans, or is it visibly unsound?	No
Do exterior walls have large cracks, or damage requiring more than routine painting?	No
Does the foundation have damage, structural leans or is it visibly unsound?	No
Are chimney blocks or masonry joints cracked, with loose or missing components, out of plumb or otherwise deteriorated?	No
Other notable conditions:	None

INTERIOR BUILDING CONDITION

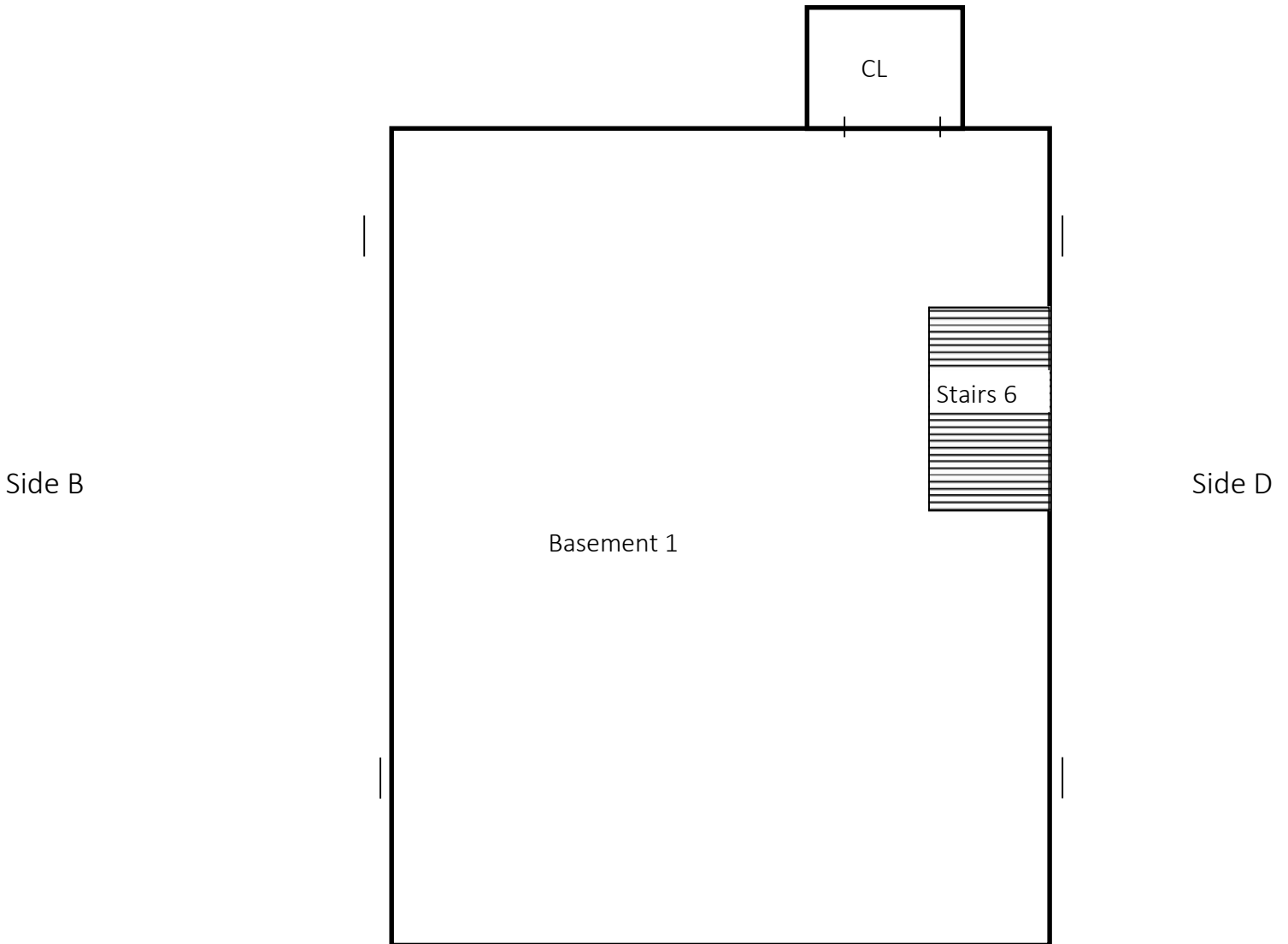
QUESTION	RESPONSE
Has there been any recent water damage in the home?	N/A
Are there water stains on interior walls or ceilings?	No
Are plaster walls or ceilings deteriorated?	No
Do interior walls have large cracks, or damage requiring more than routine painting?	Yes 2nd Floor Bedrooms 2nd Floor Bathroom All 3rd Floor Rooms
Is there any deteriorated paint in the home?	Yes
Are vinyl mini blinds present?	No
*Is the bathtub deteriorated?	No
Does the child bathe in it?	N/A
<i>*Follow MDHHS Residential Lead Hazard Control-Lead in Water Protocol</i>	
Other notable conditions:	None

B-3: Floor Plans

Side C

INTERIOR BASEMENT

*All windows are glass block.



Window types:

WD = Wood **V** = Vinyl **AL** = Aluminum **M** = Metal **GB** = Glass block
ST = Steel **F** = Fixed **BU** = Boarded-up **W#** = Window Number
BW# = Basement Window Number

Dust wipe sample:

HF = Hard Floor, **CF** = Carpeted Floor
S = Window Sill, **T** = Window Trough, **EPF** = Exterior Porch Floor

Soil samples: **SS-1, SS-2, SS-3, etc.**

Water samples:

BF = Bathroom Faucet, **KF**=Kitchen Faucet, **EF**=Exterior Faucet,
BTF=Bathroom Tub Faucet, **LF**=Laundry Faucet, **RF**=Refrigerator Faucet
WH = Water Heater **WM** = Water meter

CL=Closet

Side A

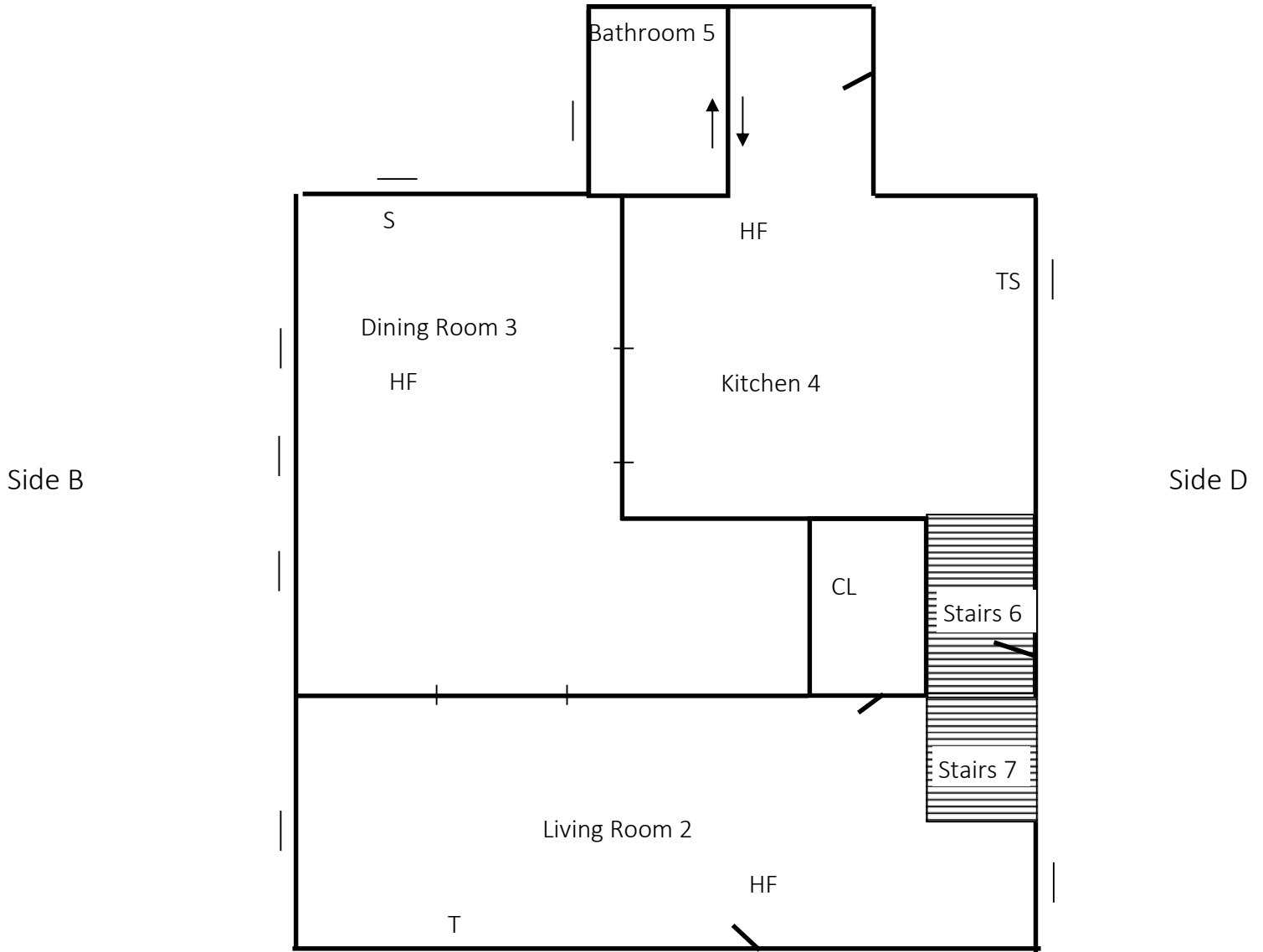


B-3: Floor Plans

Side C

INTERIOR FIRST FLOOR

*All windows are wood.



Window types:

WD = Wood V = Vinyl AL = Aluminum M = Metal GB = Glass block
ST = Steel F = Fixed BU = Boarded-up W# = Window Number
BW# = Basement Window Number

Dust wipe sample:

HF = Hard Floor, CF = Carpeted Floor
S = Window Sill, T = Window Trough, EPF = Exterior Porch Floor

Soil samples: SS-1, SS-2, SS-3, etc.

Water samples:

BF = Bathroom Faucet, KF=Kitchen Faucet, EF=Exterior Faucet,
BTF=Bathroom Tub Faucet, LF=Laundry Faucet, RF=Refrigerator Faucet
WH = Water Heater WM = Water meter

CL=Closet

Side A



B-3: Floor Plans

Side C

INTERIOR SECOND FLOOR



Window types:

WD = Wood V = Vinyl AL = Aluminum M = Metal GB = Glass block
 ST = Steel F = Fixed BU = Boarded-up W# = Window Number
 BW# = Basement Window Number

Dust wipe sample:

HF = Hard Floor, CF = Carpeted Floor
 S = Window Sill, T = Window Trough, EPF = Exterior Porch Floor

Soil samples: SS-1, SS-2, SS-3, etc.

Water samples:

BF = Bathroom Faucet, KF=Kitchen Faucet, EF=Exterior Faucet,
 BTF=Bathroom Tub Faucet, LF=Laundry Faucet, RF=Refrigerator Faucet
 WH = Water Heater WM = Water meter

CL=Closet

Side A

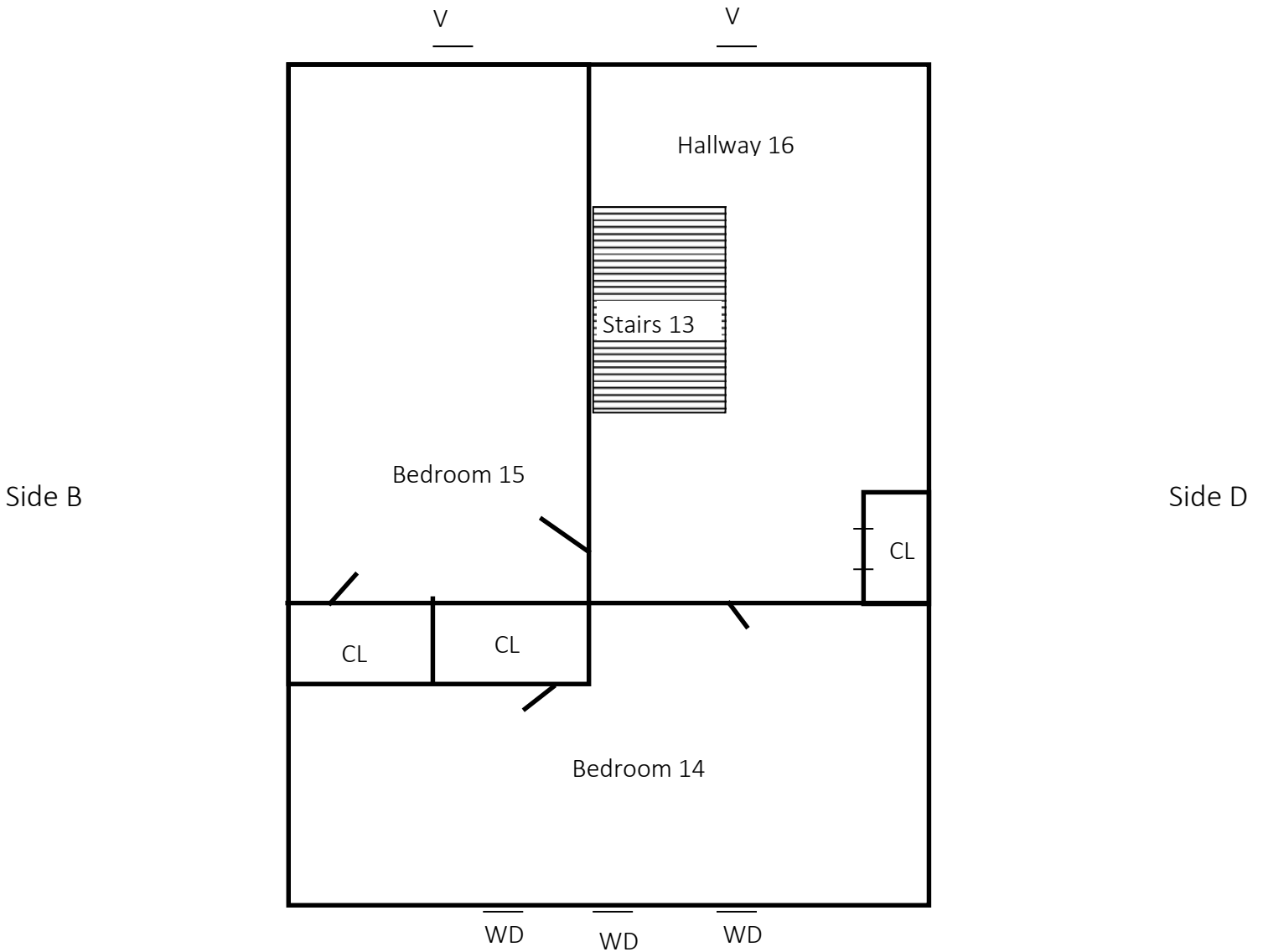


N

B-3: Floor Plans

Side C

INTERIOR THIRD FLOOR



Window types:

WD = Wood V = Vinyl AL = Aluminum M = Metal GB = Glass block
ST = Steel F = Fixed BU = Boarded-up W# = Window Number BW#
= Basement Window Number

Dust wipe sample:

HF = Hard Floor, CF = Carpeted Floor
S = Window Sill, T = Window Trough, EPF = Exterior Porch Floor

Soil samples: SS-1, SS-2, SS-3, etc.

Water samples:

BF = Bathroom Faucet, KF=Kitchen Faucet, EF=Exterior Faucet,
BTF=Bathroom Tub Faucet, LF=Laundry Faucet, RF=Refrigerator Faucet
WH = Water Heater WM = Water meter

CL=Closet

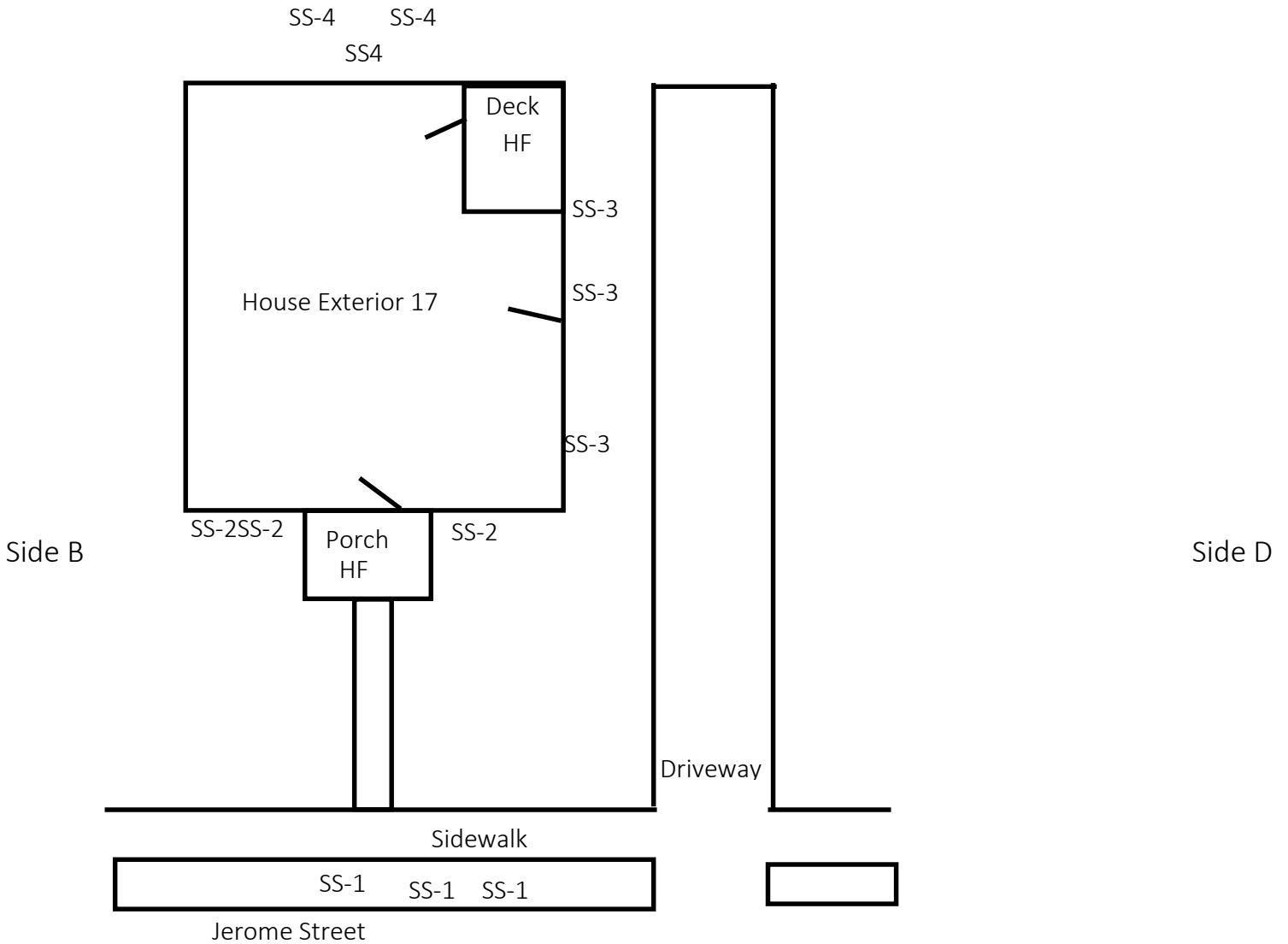


N

B-3: Floor Plans

Side C

EXTERIOR PROPERTY LAYOUT



Window types:

WD = Wood V = Vinyl AL = Aluminum M = Metal GB = Glass block
 ST = Steel F = Fixed BU = Boarded-up W# = Window Number
 BW# = Basement Window Number

Side A

Dust wipe sample:

HF = Hard Floor, CF = Carpeted Floor
 S = Window Sill, T = Window Trough, EPF = Exterior Porch Floor

Soil samples: SS-1, SS-2, SS-3, etc.

Water samples:

BF = Bathroom Faucet, KF=Kitchen Faucet, EF=Exterior Faucet,
 BTF=Bathroom Tub Faucet, LF=Laundry Faucet, RF=Refrigerator Faucet
 WH = Water Heater WM = Water meter

CL=Closet

B-4: Photos



Side A



Side B



Side C



Side D



Basement 1



Living Room 2



Dining Room 3



Kitchen 4



Bathroom 5



Stairs 6



Stairs 7



Bedroom 8



Bedroom 9



Bedroom 10



Bathroom 11



Hallway 12



Stairs 13



Bedroom 14



Bedroom 15



Hallway 16



Hallway 16 (2)



Deteriorated Paint



Paint Chips in Troughs



Side D Exposed Siding



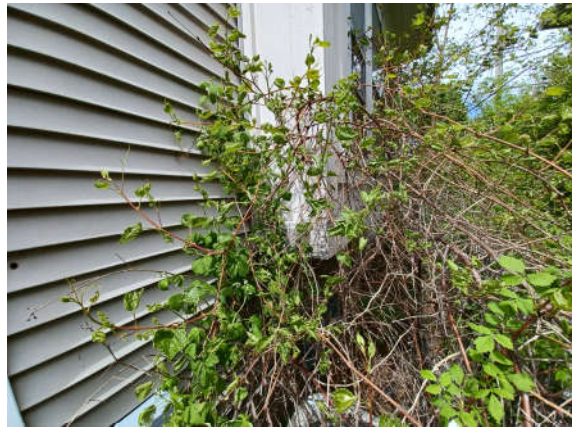
Side A 2nd Floor Assumed Windows



Side B Exterior Windows Inaccessible



Side B Thorns



Side B Thorns (2)



Soffit and Fascia



Soffit and Fascia (2)



Soffit and Fascia (3)



Soffit and Fascia (4)

APPENDIX C – LEAD: EDUCATION, TESTING, RESOURCES & LAWS

C-1: Lead Education

LEAD-BASED PAINT

Lead is a highly toxic metal. When we say paint, it includes:

- Varnishes
- Enamels
- Lacquers
- Glazes
- Stains
- Primers
- Coatings

Lead-based paint is a paint that has lead in it. Lead is used in paint to:

- Brighten the color
- Reduce corrosion (weathering / wear and tear)
- Speed up drying time

Lead was commonly used in household paint in homes built before **1978**. In 1978, the federal government banned the use of lead-based paint in homes (for consumers). The older the home, the more likely it is to have lead-based paint.

Before 1940



1940 – 1959



1960 – 1977



LEAD-HAZARDS

A lead-hazard is when lead is present in a surface and that surface is deteriorating or breaking down. There are specific definitions for different lead-hazards.

- **Lead-Based Paint Hazard** –any lead-based paint, including lead dust and soil that would have an adverse effect on human health.
- **Dust-Lead Hazard** – surface dust in a residence containing an area or mass concentration of lead equal to or in excess of:
 - 10 µg/ft²(micrograms per square feet) on floors
 - 40 µg/ft² on porches
 - 100 µg/ft²on interior window sills
 - 100 µg/ft²on window troughs
- **Soil-Lead Hazard** – bare soil (*soil not covered with grass, sod, some other vegetation, or paving, including the sand in sandboxes*) on a residential property that contains lead in excess of:
 - 400 ppm (parts per million) in play areas (*an area of frequent soil contact by children (e.g., sandboxes, swing sets, etc.)*) and vegetable gardens.
 - 1200 ppm in the rest of the yard.

To correct lead-hazards, there are two options:

- **Abatement**

- The permanent elimination of lead-based paint hazards. This includes:
 - Removal of building components coated with lead-based paint
 - Removal of dust-lead hazards
 - Removal of soil-lead hazards
 - Overlaying soil with durable covering such as asphalt
 - Enclosing lead-based paint hazards
 - Coating lead-based paint hazards with approved encapsulant (“a thick liquid used to cover lead-based paint”)
- This method requires:
 - Preparation
 - Waste disposal
 - Recordkeeping
 - Cleanup
 - Post abatement clearance testing
 - Monitoring (if applicable)

- **Interim Control**

- A temporary measure to reduce exposure to lead-based paint hazards. This includes, but is not limited to:
 - Preparing and painting lead-based paint hazards
 - Treatment of friction and impact surfaces
 - Specialized cleaning
 - Landscaping over soil-lead hazards (e.g., grass or sod)
 - Monitoring (*conducted by property owner or tenant*)
 - Re-evaluation (*conducted by a certified lead professional*)

For further information, please call MDHHS Healthy Homes Section at 517-335-9390.

LEAD EXPOSURE

Exposure to lead happens during the application, removal and failure of integrity (deterioration) of lead-based paint or from soil lead hazards. Deteriorated paint includes:

- Any paint coating that is peeling, chipping, blistering, flaking, worn, chalking, cracking, or otherwise becoming separated from the painted surface.

Lead-based paint breaks down into:

- **Paint chips** – chips are paint pieces that are detached from the original painted surface. Chips include paint that is peeling, chipping, chalking or cracked.
- **Dust** – dust is created when lead paint is scraped, dry sanded, heated or burned, or when painted surfaces rub together (opening / closing windows and doors). **Dust is the most common source of lead exposure among children.**
 - Dust from lead-based paint can also contaminate the soil. This can be a source of exposure when children play on the ground, or when people bring soil into the house on their shoes.

Lead chips and dust settle on surfaces and objects people touch. Settled lead dust can re-enter the air when people:

- Vacuum or sweep
- When they or their pet walk through it
- When windows or doors are open and allow air to circulate
- When fans circulate air
- Or any other time air is moving in the home

There are **other sources** of lead exposure. Lead is found in products that you may have in your home. These household items include:

- Painted toys; painted furniture
- Toy jewelry; cosmetics (makeup)
- Plumbing products like pipes and fixtures
- Food or liquid containers made of lead crystal or lead-glazed pottery or porcelain

Lead is present for some **jobs and hobbies**. These jobs and hobbies can bring lead home with you on your clothes or hands. Jobs and hobbies include:

- Renovation and painting
- Mining
- Smelting
- Battery recycling
- Refinishing old furniture
- Auto body work
- Shooting ranges
- Hunting (shot)
- Fishing (fishing sinkers and jigs)
- Stained glass (came and solder)
- Stock cars (weights used in stock cars)
- Making pottery (dyes and glazes)

To **reduce lead exposure from your job or hobby**:

- Do not put leaded items in your mouth (fishing sinkers, etc.)
- Wash hands before eating or drinking
- Avoid touching your face while working with lead materials
- Change clothes before entering home
- Wash clothes separately from other family members clothes

To **reduce lead exposure in the home**:

- Regularly wash hands, toys, and horizontal surfaces with wet methods. This method of cleaning includes:
 - Washing surfaces with soapy water
 - Using disposable cleaning materials (paper towel)
- Vacuum with a High Efficiency Particulate Air (HEPA) filtered vacuum
- Take shoes off before entering the home or living areas
- Cover lead exposed soil with fruitless plant materials

HEALTH EFFECTS OF LEAD EXPOSURE

Lead is a highly toxic metal. There is no safe level of lead exposure. Lead poisoning occurs when lead enters into the body through either: inhalation (breathing in) or ingestion (eating). Children under the age of six (6) are especially vulnerable to lead poisoning. They have a greater exposure to lead through:

- Frequent hand-to-mouth activity (mouthing objects).
- Consuming more food and drink, and breathing more air per kilogram of body weight than adults.
- Digesting 4-5 times more lead from the gut than adults.
- Nutritional deficiencies, such as an iron deficiency (which increases the bioavailability of lead – meaning it makes lead more available to enter the body).

Children under the age of six (6), their bodies and nervous system is not fully developed. One of the systems lead affects is the nervous system. Lead is a multi-system toxicant, causing:

- Brain and nervous system damage
- Decreased IQ
- Learning difficulties
- Speech, language, and behavior problems
- Hearing problems
- Slow or reduced growth
- Muscle or joint pain
- Reproductive problems (adult)
- Digestive problems
- Kidney damage
- Anemia
- High blood pressure

C-2: Lead Testing Procedures

PAINT

To test for lead in paint, an XRF instrument is used. XRF stands for “X-Ray Fluorescence.”

To measure lead, this device uses low level radiation. The radiation excites atoms within painted surfaces. Excitement, or movement, of atoms causes radiation to rebound back to the device. This rebound tells the device if lead is present. Lead is determined present if the level is 1 microgram per square centimeter ($\mu\text{g}/\text{cm}^2$) or more.

Appendix D-2 details the XRF device used.

DUST

Dust is collected using dust wipes. Dust wipes are disposable cloths used to collect dust. The United States Department of Housing and Urban Development (HUD) provides dust wipe best practices. HUD requests inspectors to:

- Use one dust wipe per sample area.
- Collect dust in a measured area. The measured area is 12” x 12” on a floor or a minimum of 14.4 square inches on a window or window trough.
- Open the dust wipe with a gloved hand.
- Perform dust wipe using “S” motions in sample area.
- Put the dust wipe sample into a labeled tube or container.
- Label states property location, sample location, and size of sample area.
- Send samples to trace metals laboratory.
- Report results in micrograms per square foot ($\mu\text{g}/\text{ft}^2$).

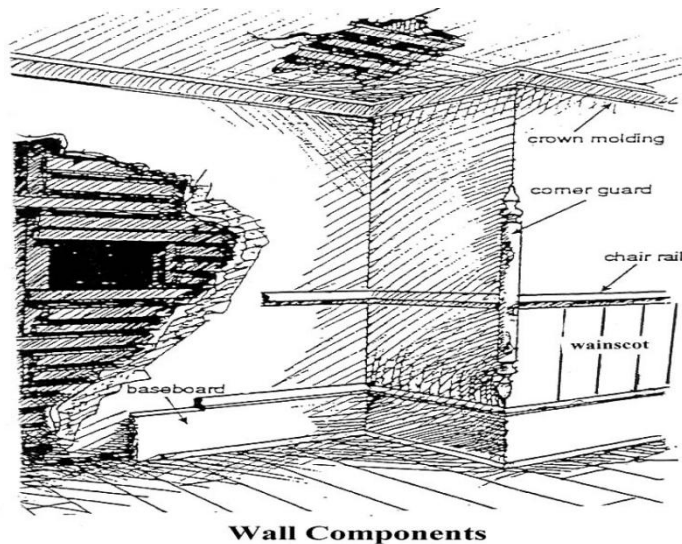
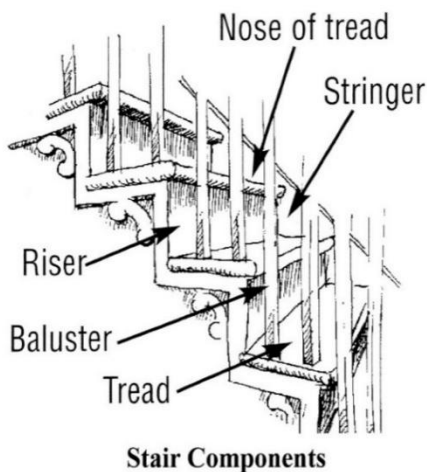
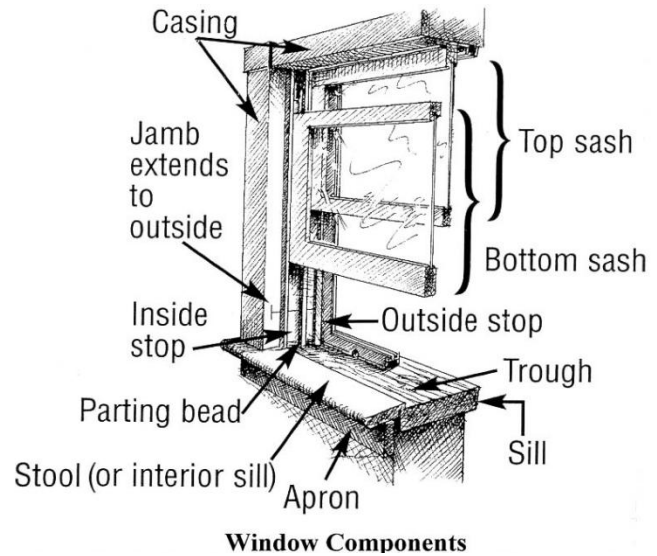
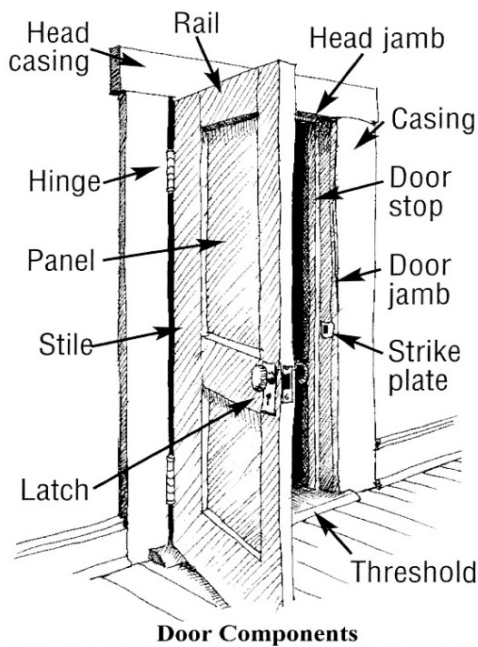
SOIL

Soil is collected using HUD best practices.

A soil sample comes from the upper ½ inch of soil. Garden soil is tested 4-6" (inches) down. All soil must come from soil on the property. Areas may include sandboxes, child play areas, and the roof drip line. A trace metals laboratory analyzes the soil for lead. Soil sample results are reported in parts per million (ppm).

HOUSING COMPONENT IDENTIFICATION

Please use the photos/diagrams below as a guide to help identify housing components noted in this report. Diagrams adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.



LEAD HAZARD CORRECTION COST ESTIMATES

Window replacement	\$500 - \$600
Wood window replacement	\$900 - \$1200
Window jamb liners	\$350 - \$500
Siding exterior	\$400 - \$600 square (square = 100 square feet)
Painting exterior	\$275 - \$400 square
Exterior door replacement	\$750 - \$900
Interior door replacement	\$300 - \$450
Friction/impact door	\$250 - \$400
E-cap baseboards	\$200 - \$400 per room
Paint baseboards	\$200 - \$300 per room
Stair system w/rubber	\$400 - \$800
Lead cleaning	\$100 - \$200 per room

C-3: Your Responsibilities

RE-EVALUATION & MONITORING SCHEDULE

Monitor Potential Lead Hazards Two Ways After Abatement/Interim Controls Completed:

Visual Survey: Perform one month and six months after lead hazard work. Perform once each year if no problems found. **Visual survey is completed by homeowner.**

Visual survey includes:

- Looking at painted surfaces known to have lead and see if paint is in good repair.
- Looking at areas lead hazards fixed to see if in good repair.
- Finding problems with the building that could cause new lead hazards.

Re-Evaluate: Every two years a **certified risk assessor** re-evaluates the building.

This includes:

- Measuring dust for lead.
- Measuring soil for lead.
- Assessing potential lead-based paint hazards.

FUTURE OWNERS OF THIS PROPERTY

A summary of this report must be shared with future tenants or owners of a pre-1978 property. Federal law (24 CFR part 35 and 40 CFR part 745) requires this report be shared before they become obligated under a lease or sales contract.

Landlords (lessors) and sellers are required to:

- Distribute an educational pamphlet. This pamphlet is approved from the U.S. Environmental Protection Agency (EPA). The document is: *“Protect Your Family from Lead in Your Home.”*
- Include standard warning language in lease or sale contracts. This is to ensure parents have information they need to protect their children from lead hazards.

Contact 800-424-LEAD (5323) for information about your obligations under federal regulations.

NOTICE TO LANDLORDS

Landlord Penalty Law

If a child with an elevated blood lead level is identified in your rental unit you are responsible for ensuring that lead hazards identified in the elevated blood lead level report have been properly addressed. The following must be followed to avoid receiving penalties assessed through the Michigan Lead Abatement Act.

- If you conduct the work on your rental unit you must be certified through the EPA RRP Program or certified through the Michigan Lead Abatement Program. Depending on the method used to correct the hazard, you must follow applicable laws to ensure appropriate work practices are followed.
- Hire a lead abatement contractor; please see the certified list located at www.michigan.gov/leadsafe.
- Check eligibility for work through the Lead Safe Home Program, please see webpage for details.

Any questions regarding compliance with the Landlord Penalty Act please email HHSInfo@michigan.gov or call 517-335-9390.

APPENDIX D – ALL XRF RESULTS & DEVICE USED

D-1: Results

ALL XRF RESULTS

TABLE 8: ALL XRF RESULTS													
READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
1	0.9	Negative	Calibrate	-	-	-	-	-	-	-	-	-	-
2	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
3	1.1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
4	0.2	Negative	Wall	A	-	White	INTACT	Concrete	Basement	1	-	-	-
5	0.2	Negative	Wall	B	-	White	INTACT	Concrete	Basement	1	-	-	-
6	0.2	Negative	Wall	C	-	White	INTACT	Concrete	Basement	1	-	-	-
7	0.3	Negative	Wall	D	-	White	INTACT	Concrete	Basement	1	-	-	-
8	0.2	Negative	Floor	-	-	Brown	Deteriorated	Concrete	Basement	1	-	-	-
9	2	Positive	Cabinet Front	A	-	Brown	INTACT	Wood	Basement	1	-	-	-
10	1.6	Positive	Cabinet Door	A	-	Brown	INTACT	Wood	Basement	1	-	-	-
11	5.3	Positive	Clos. Door	C	-	White	INTACT	Wood	Basement	1	-	-	-
12	2.9	Positive	Clos. Door Casing	C	-	White	INTACT	Wood	Basement	1	-	-	-
13	0.1	Negative	Cabinet Front	D	-	White	INTACT	Wood	Basement	1	-	-	-
14	0.2	Negative	Cabinet Drawer	D	-	White	INTACT	Wood	Basement	1	-	-	-
15	0.1	Negative	Ceiling	-	-	White	INTACT	Drywall	Living Room	2	-	-	-
16	0.2	Negative	Beam	Center	-	White	Deteriorated	Wood	Living Room	2	-	-	-
17	0.2	Negative	Wall	A	-	White	INTACT	Plaster	Living Room	2	-	-	-
18	0.1	Negative	Wall	B	-	White	INTACT	Plaster	Living Room	2	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
19	0.1	Negative	Wall	C	-	White	Deteriorated	Plaster	Living Room	2	-	-	-
20	0.1	Negative	Wall	D	-	White	Deteriorated	Plaster	Living Room	2	-	-	-
21	0	Negative	Baseboard	D	(All)	Stain	INTACT	Wood	Living Room	2	-	-	-
22	0.2	Negative	Door Casing	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
23	0.6	Negative	Door Jamb Int.	A	-	Stain	Deteriorated	Wood	Living Room	2	-	-	-
24	0.1	Negative	Door Stop	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
25	18	Positive	Door Jamb Ext.	A	-	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
26	0.1	Negative	Door	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
27	0.2	Negative	Win. Casing	D	-	Stain	INTACT	Wood	Living Room	2	-	-	-
28	0.3	Negative	Win. Sill-Stool	D	-	Stain	INTACT	Wood	Living Room	2	-	-	-
29	0.3	Negative	Win. Apron	D	-	Stain	INTACT	Wood	Living Room	2	-	-	-
30	0.3	Negative	Win. Sash Int.	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
31	18.4	Positive	Win. Jamb	A	-	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
32	17	Positive	Win. Well-Trough	A	-	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
33	0.1	Negative	Win. Casing	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
34	0.1	Negative	Win. Sill-Stool	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
35	0.2	Negative	Win. Apron	A	-	Stain	INTACT	Wood	Living Room	2	-	-	-
36	0.3	Negative	Win. Casing	B	-	Stain	INTACT	Wood	Living Room	2	-	-	-
37	0.2	Negative	Win. Sill-Stool	B	-	Stain	INTACT	Wood	Living Room	2	-	-	-
38	0.1	Negative	Win. Apron	B	-	Stain	INTACT	Wood	Living Room	2	-	-	-
39	0.4	Negative	Win. Sash Int.	B	-	Stain	INTACT	Wood	Living Room	2	-	-	-
40	0.3	Negative	Clos. Door Casing	C	-	Stain	INTACT	Wood	Living Room	2	-	-	-
41	0.3	Negative	Clos. Door Jamb	C	-	Stain	INTACT	Wood	Living Room	2	-	-	-
42	0.2	Negative	Clos. Door Stop	C	-	Stain	INTACT	Wood	Living Room	2	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
43	0	Negative	Clos. Door	C	-	Stain	INTACT	Wood	Living Room	2	-	-	-
44	0.1	Negative	Clos. Wall	C	(All)	White	Deteriorated	Drywall	Living Room	2	-	-	-
45	0.2	Negative	Floor	-	-	Stain	INTACT	Wood	Living Room	2	-	-	-
46	0.2	Negative	Ceiling	-	-	White	INTACT	Drywall	Dining Room	3	-	-	-
47	0.2	Negative	Wall	A	-	White	Deteriorated	Plaster	Dining Room	3	-	-	-
48	0.9	Negative	Wall	B	-	White	Deteriorated	Plaster	Dining Room	3	-	-	-
49	0.8	Negative	Wall	C	-	White	Deteriorated	Plaster	Dining Room	3	-	-	-
50	0.7	Negative	Wall	D	-	White	Deteriorated	Plaster	Dining Room	3	-	-	-
51	0.3	Negative	Wall Casing	A	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
52	0.1	Negative	Wall Casing	B	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
53	0.2	Negative	Wall Casing	C	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
54	0.3	Negative	Wall Casing	D	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
55	0.1	Negative	Wall Register	D	-	Black	INTACT	Metal	Dining Room	3	-	-	-
56	0.1	Negative	Floor	-	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
57	0	Negative	Baseboard	B	(All)	Stain	INTACT	Wood	Dining Room	3	-	-	-
58	0.2	Negative	Door Casing	A	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
59	0.3	Negative	Door Casing	D	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
60	0.2	Negative	Win. Casing	B	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
61	0.1	Negative	Win. Casing	B	(All)	Stain	INTACT	Wood	Dining Room	3	-	-	-
62	0.2	Negative	Win. Sill-Stool	B	(All)	Stain	INTACT	Wood	Dining Room	3	-	-	-
63	0.1	Negative	Win. Mullion	B	(All)	Stain	INTACT	Wood	Dining Room	3	-	-	-
64	0.1	Negative	Win. Sash Int.	B	1	Stain	INTACT	Wood	Dining Room	3	-	-	-
65	0.1	Negative	Win. Sash Int.	B	2	Stain	INTACT	Wood	Dining Room	3	-	-	-
66	0.1	Negative	Win. Sash Int.	B	3	Stain	INTACT	Wood	Dining Room	3	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
67	0.2	Negative	Win. Sash Int.	C	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
68	0.1	Negative	Win. Casing	C	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
69	0.1	Negative	Win. Sill-Stool	C	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
70	0.2	Negative	Win. Apron	C	-	Stain	INTACT	Wood	Dining Room	3	-	-	-
71	0.2	Negative	Ceiling	-	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
72	0.1	Negative	Wall	A	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
73	0.2	Negative	Wall	B	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
74	0.1	Negative	Wall	C	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
75	0.1	Negative	Wall	D	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
76	0.1	Negative	Wall	D	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
77	0.1	Negative	Baseboard	D	(All)	White	INTACT	Wood	Kitchen	4	-	-	-
78	0.2	Negative	Door Casing	D	-	White	INTACT	Wood	Kitchen	4	-	-	-
79	0.2	Negative	Door Jamb Int.	D	-	White	INTACT	Wood	Kitchen	4	-	-	-
80	0.1	Negative	Door Jamb Ext.	D	-	White	Deteriorated	Wood	Kitchen	4	-	-	-
81	0.1	Negative	Door	D	-	White	INTACT	Metal	Kitchen	4	-	-	-
82	0.1	Negative	Door Casing	B	-	White	INTACT	Wood	Kitchen	4	-	-	-
83	0.1	Negative	Win. Casing	D	-	White	INTACT	Wood	Kitchen	4	-	-	-
84	0.1	Negative	Win. Stop Int.	D	-	White	INTACT	Wood	Kitchen	4	-	-	-
85	0.1	Negative	Win. Sill-Stool	D	-	White	INTACT	Wood	Kitchen	4	-	-	-
86	0.1	Negative	Ceiling	-	-	White	Deteriorated	Drywall	Bathroom	5	-	-	-
87	0.1	Negative	Wall	A	-	White	INTACT	Drywall	Bathroom	5	-	-	-
88	0.1	Negative	Wall	B	-	White	INTACT	Drywall	Bathroom	5	-	-	-
89	0.2	Negative	Wall	C	-	White	INTACT	Drywall	Bathroom	5	-	-	-
90	0.2	Negative	Wall	D	-	White	INTACT	Drywall	Bathroom	5	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
91	0.1	Negative	Baseboard	D	(All)	White	INTACT	Wood	Bathroom	5	-	-	-
92	0.1	Negative	Win. Casing	B	-	White	INTACT	Wood	Bathroom	5	-	-	-
93	0.1	Negative	Win. Sash Int.	B	-	White	INTACT	Wood	Bathroom	5	-	-	-
94	0.1	Negative	Door Casing	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
95	0	Negative	Door Jamb	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
96	0.1	Negative	Door	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
97	0.5	Negative	Ceiling	-	-	White	Deteriorated	Drywall	Stairwell	6	-	-	-
98	2.2	Positive	Wall	B	-	White	Deteriorated	Drywall	Stairwell	6	Moisture	No	No
99	1.7	Positive	Wall	D	-	White	Deteriorated	Plaster	Stairwell	6	Moisture	No	No
100	0.3	Negative	Cabinet Door	B	-	White	Deteriorated	Wood	Stairwell	6	-	-	-
101	0.6	Negative	Door Casing	C	-	White	Deteriorated	Wood	Stairwell	6	-	-	-
102	0.3	Negative	Door Jamb	C	-	White	Deteriorated	Wood	Stairwell	6	-	-	-
103	0.1	Negative	Door	C	-	White	INTACT	Wood	Stairwell	6	-	-	-
104	0.1	Negative	Door Jamb	D	-	Yellow	INTACT	Wood	Stairwell	6	-	-	-
105	0.2	Negative	Door Jamb Ext.	D	-	Yellow	Deteriorated	Wood	Stairwell	6	-	-	-
106	0.3	Negative	Door	D	-	White	INTACT	Metal	Stairwell	6	-	-	-
107	7.8	Positive	Stair Riser	C	-	White	Deteriorated	Wood	Stairwell	6	Impact	Yes	No
108	0.1	Negative	Stair Stringer	Center	-	White	INTACT	Wood	Stairwell	6	-	-	-
109	0.1	Negative	Stair Tread	Center	-	White	INTACT	Wood	Stairwell	6	-	-	-
110	0.1	Negative	Ceiling	-	-	White	INTACT	Paneling	Stairwell	7	-	-	-
111	0.4	Negative	Wall	A	-	White	INTACT	Plaster	Stairwell	7	-	-	-
112	0.2	Negative	Wall	B	-	White	INTACT	Plaster	Stairwell	7	-	-	-
113	0.2	Negative	Wall	C	-	White	Deteriorated	Plaster	Stairwell	7	-	-	-
114	0.2	Negative	Wall	D	-	White	Deteriorated	Plaster	Stairwell	7	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
115	0.2	Negative	Baseboard	C	(All)	Stain	INTACT	Wood	Stairwell	7	-	-	-
116	0.2	Negative	Floor	-	-	Stain	INTACT	Wood	Stairwell	7	-	-	-
117	0.1	Negative	Win. Casing	D	-	White	INTACT	Wood	Stairwell	7	-	-	-
118	0	Negative	Win. Apron	D	-	White	INTACT	Wood	Stairwell	7	-	-	-
119	0.1	Negative	Win. Sill-Stool	D	-	White	INTACT	Wood	Stairwell	7	-	-	-
120	0.5	Negative	Stair Stringer	Center	-	White	INTACT	Wood	Stairwell	7	-	-	-
121	0.2	Negative	Stair Tread	Center	-	Stain	INTACT	Wood	Stairwell	7	-	-	-
122	0.1	Negative	Stair Riser	Center	-	Stain	INTACT	Wood	Stairwell	7	-	-	-
123	0.3	Negative	Ceiling	-	-	White	INTACT	Paneling	Bedroom	8	-	-	-
124	0.3	Negative	Wall	A	-	White	INTACT	Paneling	Bedroom	8	-	-	-
125	0.3	Negative	Wall	B	-	White	INTACT	Paneling	Bedroom	8	-	-	-
126	0.3	Negative	Wall	C	-	White	INTACT	Paneling	Bedroom	8	-	-	-
127	0.4	Negative	Wall	D	-	White	INTACT	Paneling	Bedroom	8	-	-	-
128	0.1	Negative	Baseboard	D	(All)	White	INTACT	Wood	Bedroom	8	-	-	-
129	0.2	Negative	Win. Casing	A	-	White	INTACT	Wood	Bedroom	8	-	-	-
130	0.2	Negative	Win. Sill-Stool	A	-	White	Deteriorated	Wood	Bedroom	8	-	-	-
131	0.1	Negative	Win. Stop Int.	A	-	White	INTACT	Wood	Bedroom	8	-	-	-
132	0.1	Negative	Win. Sash Int.	A	-	White	INTACT	Wood	Bedroom	8	-	-	-
133	0.2	Negative	Win. Apron	A	-	White	INTACT	Wood	Bedroom	8	-	-	-
134	23.6	Positive	Win. Well-Trough	A	-	White	Deteriorated	Wood	Bedroom	8	Weather	Yes	No
135	15.9	Positive	Win. Jamb	A	-	White	Deteriorated	Wood	Bedroom	8	Friction	Yes	No
136	0.2	Negative	Door Casing	C	-	White	INTACT	Wood	Bedroom	8	-	-	-
137	0.1	Negative	Door Jamb	C	-	White	INTACT	Wood	Bedroom	8	-	-	-
138	0.2	Negative	Door Stop	C	-	White	INTACT	Wood	Bedroom	8	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
139	0.2	Negative	Door	C	-	White	INTACT	Wood	Bedroom	8	-	-	-
140	0.2	Negative	Clos. Door Casing	D	-	White	INTACT	Wood	Bedroom	8	-	-	-
141	0	Negative	Clos. Door	D	-	White	INTACT	Wood	Bedroom	8	-	-	-
142	0.4	Negative	Clothes Rod	D	-	White	Deteriorated	Metal	Bedroom	8	-	-	-
143	0.4	Negative	Clos. Wall	D	(All)	White	INTACT	Wood	Bedroom	8	-	-	-
144	0.4	Negative	Ceiling	-	-	White	INTACT	Paneling	Bedroom	9	-	-	-
145	0.4	Negative	Wall	A	-	White	INTACT	Paneling	Bedroom	9	-	-	-
146	0.2	Negative	Wall	B	-	White	INTACT	Paneling	Bedroom	9	-	-	-
147	0.2	Negative	Wall	C	-	White	INTACT	Paneling	Bedroom	9	-	-	-
148	0.3	Negative	Wall	D	-	White	INTACT	Paneling	Bedroom	9	-	-	-
149	0.3	Negative	Baseboard	D	(All)	White	INTACT	Wood	Bedroom	9	-	-	-
150	0.4	Negative	Door Casing	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
151	0.2	Negative	Door Jamb	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
152	0.1	Negative	Door Stop	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
153	0.2	Negative	Door	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
154	0.2	Negative	Win. Casing	A	-	White	Deteriorated	Wood	Bedroom	9	-	-	-
155	0.2	Negative	Win. Sash Int.	A	-	White	Deteriorated	Wood	Bedroom	9	-	-	-
156	0.1	Negative	Win. Stop Int.	A	-	White	Deteriorated	Wood	Bedroom	9	-	-	-
157	0.1	Negative	Win. Apron	A	-	White	Deteriorated	Wood	Bedroom	9	-	-	-
158	0.1	Negative	Win. Sill-Stool	A	-	White	Deteriorated	Wood	Bedroom	9	-	-	-
159	28.5	Positive	Win. Well-Trough	A	-	White	Deteriorated	Wood	Bedroom	9	Weather	Yes	No
160	17.2	Positive	Win. Jamb	A	-	White	Deteriorated	Wood	Bedroom	9	Friction	Yes	No
161	0.3	Negative	Win. Casing	B	-	White	INTACT	Wood	Bedroom	9	-	-	-
162	0.3	Negative	Win. Sill-Stool	B	-	White	INTACT	Wood	Bedroom	9	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
163	0.3	Negative	Win. Apron	B	-	White	INTACT	Wood	Bedroom	9	-	-	-
164	0.3	Negative	Clos. Door Casing	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
165	0.1	Negative	Clos. Door Stop	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
166	0.2	Negative	Clos. Door Jamb	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
167	0.3	Negative	Clos. Shelf	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
168	0.2	Negative	Shelf Bracket	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
169	0.3	Negative	Clos. Wall	C	(All)	White	INTACT	Drywall	Bedroom	9	-	-	-
170	0.3	Negative	Ceiling	-	-	White	INTACT	Paneling	Bedroom	10	-	-	-
171	0.4	Negative	Wall	A	-	White	INTACT	Paneling	Bedroom	10	-	-	-
172	0.3	Negative	Wall	B	-	White	INTACT	Paneling	Bedroom	10	-	-	-
173	0.4	Negative	Wall	C	-	White	INTACT	Paneling	Bedroom	10	-	-	-
174	0.1	Negative	Wall	D	-	White	INTACT	Paneling	Bedroom	10	-	-	-
175	0.2	Negative	Baseboard	D	(All)	White	INTACT	Wood	Bedroom	10	-	-	-
176	0.4	Negative	Floor	-	-	Stain	INTACT	Wood	Bedroom	10	-	-	-
177	0.1	Negative	Door Casing	A	-	White	INTACT	Wood	Bedroom	10	-	-	-
178	0.3	Negative	Door Jamb	A	-	White	INTACT	Wood	Bedroom	10	-	-	-
179	0.2	Negative	Door Stop	A	-	White	INTACT	Wood	Bedroom	10	-	-	-
180	0.1	Negative	Door	A	-	White	INTACT	Wood	Bedroom	10	-	-	-
181	0.1	Negative	Win. Casing	C	-	White	INTACT	Wood	Bedroom	10	-	-	-
182	0.1	Negative	Win. Sill-Stool	C	-	White	INTACT	Wood	Bedroom	10	-	-	-
183	0.1	Negative	Win. Apron	C	-	White	INTACT	Wood	Bedroom	10	-	-	-
184	0.3	Negative	Clos. Door Casing	D	-	White	INTACT	Wood	Bedroom	10	-	-	-
185	0.3	Negative	Clos. Door Jamb	D	-	White	INTACT	Wood	Bedroom	10	-	-	-
186	0.1	Negative	Clos. Door Stop	D	-	White	INTACT	Wood	Bedroom	10	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
187	0.3	Negative	Clos. Shelf	D	-	White	INTACT	Wood	Bedroom	10	-	-	-
188	0.2	Negative	Shelf Bracket	D	-	White	INTACT	Wood	Bedroom	10	-	-	-
189	0.1	Negative	Clos. Wall	D	-	White	Deteriorated	Drywall	Bedroom	10	-	-	-
190	0.2	Negative	Door Casing	A	-	White	Deteriorated	Drywall	Bedroom	10	-	-	-
191	0.1	Negative	Door	A	-	White	Deteriorated	Drywall	Bedroom	10	-	-	-
192	0.2	Negative	Door Jamb	A	-	White	INTACT	Drywall	Bedroom	10	-	-	-
193	0.2	Negative	Door Stop	A	-	White	INTACT	Drywall	Bedroom	10	-	-	-
194	0.1	Negative	Ceiling	-	-	White	Deteriorated	Drywall	Bathroom	11	-	-	-
195	0.1	Negative	Wall	A	-	White	Deteriorated	Drywall	Bathroom	11	-	-	-
196	0.1	Negative	Wall	B	-	White	Deteriorated	Drywall	Bathroom	11	-	-	-
197	0.2	Negative	Wall	C	-	White	Deteriorated	Drywall	Bathroom	11	-	-	-
198	0.1	Negative	Wall	D	-	White	Deteriorated	Drywall	Bathroom	11	-	-	-
199	0.1	Negative	Baseboard	D	(All)	White	INTACT	Wood	Bathroom	11	-	-	-
200	0.1	Negative	Win. Casing	C	-	White	INTACT	Wood	Bathroom	11	-	-	-
201	0.1	Negative	Win. Sill-Stool	C	-	White	INTACT	Wood	Bathroom	11	-	-	-
202	0.1	Negative	Win. Apron	C	-	White	INTACT	Wood	Bathroom	11	-	-	-
203	0.1	Negative	Door Casing	A	-	White	INTACT	Wood	Bathroom	11	-	-	-
204	0.1	Negative	Door Stop	A	-	White	INTACT	Wood	Bathroom	11	-	-	-
205	0.2	Negative	Door Jamb	A	-	White	Deteriorated	Wood	Bathroom	11	-	-	-
206	0.2	Negative	Door	A	-	White	Deteriorated	Wood	Bathroom	11	-	-	-
207	0.3	Negative	Ceiling	-	-	White	INTACT	Paneling	Hallway	12	-	-	-
208	0.1	Negative	Wall	A	-	White	INTACT	Plaster	Hallway	12	-	-	-
209	0.2	Negative	Wall	B	-	White	INTACT	Plaster	Hallway	12	-	-	-
210	0.2	Negative	Wall	C	-	White	INTACT	Plaster	Hallway	12	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
211	0.2	Negative	Floor	C	-	Stain	INTACT	Wood	Hallway	12	-	-	-
212	0.4	Negative	Door Casing	A	1	White	INTACT	Wood	Hallway	12	-	-	-
213	0.2	Negative	Door Jamb	A	1	White	INTACT	Wood	Hallway	12	-	-	-
214	0.2	Negative	Door	A	1	White	INTACT	Wood	Hallway	12	-	-	-
215	0.2	Negative	Door	A	2	White	Deteriorated	Wood	Hallway	12	-	-	-
216	0.1	Negative	Door Casing	A	2	White	Deteriorated	Wood	Hallway	12	-	-	-
217	0.1	Negative	Door Jamb	A	2	White	Deteriorated	Wood	Hallway	12	-	-	-
218	0.2	Negative	Door Casing	C	1	White	Deteriorated	Wood	Hallway	12	-	-	-
219	0.2	Negative	Door Jamb	C	1	White	Deteriorated	Wood	Hallway	12	-	-	-
220	0.1	Negative	Door	C	1	White	Deteriorated	Wood	Hallway	12	-	-	-
221	0.2	Negative	Door	C	2	White	INTACT	Wood	Hallway	12	-	-	-
222	0.1	Negative	Door Casing	C	2	White	INTACT	Wood	Hallway	12	-	-	-
223	0.2	Negative	Door Jamb	C	2	White	INTACT	Wood	Hallway	12	-	-	-
224	0.1	Negative	Door Stop	C	2	White	INTACT	Wood	Hallway	12	-	-	-
225	0.2	Negative	Door Casing	C	3	White	INTACT	Wood	Hallway	12	-	-	-
226	0.1	Negative	Door Jamb	C	3	White	INTACT	Wood	Hallway	12	-	-	-
227	0	Negative	Door Stop	C	3	White	INTACT	Wood	Hallway	12	-	-	-
228	0.1	Negative	Door	C	3	White	INTACT	Wood	Hallway	12	-	-	-
229	0.1	Negative	Clos. Door Casing	B	-	White	INTACT	Wood	Hallway	12	-	-	-
230	0.3	Negative	Clos. Door Jamb	B	-	White	INTACT	Wood	Hallway	12	-	-	-
231	0.3	Negative	Clos. Door Stop	B	-	White	INTACT	Wood	Hallway	12	-	-	-
232	0.2	Negative	Clos. Door	B	-	White	INTACT	Wood	Hallway	12	-	-	-
233	0.3	Negative	Clos. Shelf	B	-	White	INTACT	Wood	Hallway	12	-	-	-
234	0.2	Negative	Shelf Bracket	B	-	White	INTACT	Wood	Hallway	12	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
235	0.3	Negative	Ceiling	-	-	Green	INTACT	Drywall	Stairwell	13	-	-	-
236	0.3	Negative	Wall	B	-	White	Deteriorated	Drywall	Stairwell	13	-	-	-
237	0.2	Negative	Wall	D	-	White	Deteriorated	Drywall	Stairwell	13	-	-	-
238	0.1	Negative	Stair Stringer	Center	-	White	Deteriorated	Drywall	Stairwell	13	-	-	-
239	0.1	Negative	Stair Tread	Center	-	Stain	Deteriorated	Drywall	Stairwell	13	-	-	-
240	0.1	Negative	Stair Riser	Center	-	Stain	Deteriorated	Drywall	Stairwell	13	-	-	-
241	0.3	Negative	Ceiling	-	-	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
242	0.3	Negative	Wall	A	-	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
243	0.4	Negative	Wall	B	-	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
244	0.4	Negative	Wall	C	-	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
245	0.5	Negative	Wall	D	-	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
246	0.1	Negative	Baseboard	D	(All)	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
247	0.1	Negative	Floor	-	-	Stain	INTACT	Wood	Bedroom	14	-	-	-
248	0.1	Negative	Door Casing	C	-	Beige	INTACT	Wood	Bedroom	14	-	-	-
249	0.1	Negative	Door	C	-	Beige	Deteriorated	Wood	Bedroom	14	-	-	-
250	0.1	Negative	Door Stop	C	-	White	Deteriorated	Wood	Bedroom	14	-	-	-
251	0.1	Negative	Door Jamb	C	-	White	Deteriorated	Wood	Bedroom	14	-	-	-
252	0.2	Negative	Win. Casing	A	(All)	White	Deteriorated	Wood	Bedroom	14	-	-	-
253	0.1	Negative	Win. Sill-Stool	A	(All)	White	Deteriorated	Wood	Bedroom	14	-	-	-
254	0.2	Negative	Win. Apron	A	(All)	White	Deteriorated	Wood	Bedroom	14	-	-	-
255	0.3	Negative	Win. Sash Int.	A	1	White	Deteriorated	Wood	Bedroom	14	-	-	-
256	0.2	Negative	Win. Sash Int.	A	2	White	Deteriorated	Wood	Bedroom	14	-	-	-
257	0.3	Negative	Win. Sash Int.	A	3	White	Deteriorated	Wood	Bedroom	14	-	-	-
258	1.7	Positive	Win. Sash Ext.	A	3	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
259	19.7	Positive	Win. Stop Ext.	A	3	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
260	0.1	Negative	Clos. Door Casing	C	-	White	INTACT	Wood	Bedroom	14	-	-	-
261	0	Negative	Clos. Door	C	-	White	Deteriorated	Wood	Bedroom	14	-	-	-
262	0	Negative	Clos. Door Stop	C	-	Brown	Deteriorated	Wood	Bedroom	14	-	-	-
263	0.1	Negative	Clos. Jamb	C	-	Brown	Deteriorated	Wood	Bedroom	14	-	-	-
264	0.2	Negative	Clos. Wall	C	(All)	Green	Deteriorated	Wood	Bedroom	14	-	-	-
265	0.4	Negative	Ceiling	-	-	White	Deteriorated	Wood	Bedroom	15	-	-	-
266	0.3	Negative	Wall	A	-	White	Deteriorated	Wood	Bedroom	15	-	-	-
267	0.3	Negative	Wall	B	-	White	Deteriorated	Wood	Bedroom	15	-	-	-
268	0.3	Negative	Wall	C	-	White	Deteriorated	Wood	Bedroom	15	-	-	-
269	0.2	Negative	Wall	D	-	White	Deteriorated	Wood	Bedroom	15	-	-	-
270	0.1	Negative	Floor	-	-	Blue	Deteriorated	Wood	Bedroom	15	-	-	-
271	0.2	Negative	Baseboard	D	(All)	White	INTACT	Wood	Bedroom	15	-	-	-
272	0.2	Negative	Win. Casing	C	-	White	INTACT	Wood	Bedroom	15	-	-	-
273	0.1	Negative	Win. Stop Int.	C	-	White	INTACT	Wood	Bedroom	15	-	-	-
274	0.3	Negative	Win. Sill-Stool	C	-	White	INTACT	Wood	Bedroom	15	-	-	-
275	0.2	Negative	Clos. Door Casing	A	-	White	INTACT	Wood	Bedroom	15	-	-	-
276	0.3	Negative	Clos. Door Jamb	A	-	White	INTACT	Wood	Bedroom	15	-	-	-
277	0.2	Negative	Clos. Door Stop	A	-	White	INTACT	Wood	Bedroom	15	-	-	-
278	0.2	Negative	Clos. Door	A	-	White	INTACT	Wood	Bedroom	15	-	-	-
279	0.3	Negative	Clos. Wall	A	(All)	Blue	Deteriorated	Drywall	Bedroom	15	-	-	-
280	0.1	Negative	Door Casing	D	-	White	Deteriorated	Wood	Bedroom	15	-	-	-
281	0.3	Negative	Door Stop	D	-	White	INTACT	Wood	Bedroom	15	-	-	-
282	0.2	Negative	Door Jamb	D	-	White	INTACT	Wood	Bedroom	15	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
283	0.1	Negative	Door	D	-	White	INTACT	Wood	Bedroom	15	-	-	-
284	0.4	Negative	Ceiling	-	-	Green	Deteriorated	Wood	Hallway	16	-	-	-
285	0.2	Negative	Wall	A	-	Blue	Deteriorated	Wood	Hallway	16	-	-	-
286	0.1	Negative	Wall	B	-	Blue	Deteriorated	Wood	Hallway	16	-	-	-
287	0.2	Negative	Wall	C	-	Blue	Deteriorated	Wood	Hallway	16	-	-	-
288	0.2	Negative	Wall	D	-	Blue	Deteriorated	Wood	Hallway	16	-	-	-
289	0.1	Negative	Door Casing	A	-	White	INTACT	Wood	Hallway	16	-	-	-
290	0.2	Negative	Door Jamb	A	-	White	INTACT	Wood	Hallway	16	-	-	-
291	0.1	Negative	Door	A	-	White	Deteriorated	Wood	Hallway	16	-	-	-
292	0.2	Negative	Door	B	-	White	Deteriorated	Wood	Hallway	16	-	-	-
293	0.1	Negative	Door Casing	B	-	White	Deteriorated	Wood	Hallway	16	-	-	-
294	0.2	Negative	Door Jamb	B	-	White	Deteriorated	Wood	Hallway	16	-	-	-
295	0.1	Negative	Floor	-	-	Stain	INTACT	Wood	Hallway	16	-	-	-
296	0.2	Negative	Win. Casing	C	-	Green	INTACT	Wood	Hallway	16	-	-	-
297	0.1	Negative	Win. Sill-Stool	C	-	Green	INTACT	Wood	Hallway	16	-	-	-
298	0.2	Negative	Clos. Door Casing	D	-	Green	INTACT	Wood	Hallway	16	-	-	-
299	0.2	Negative	Clos. Door Stop	D	-	Green	INTACT	Wood	Hallway	16	-	-	-
300	0.1	Negative	Clos. Door Jamb	D	-	Green	INTACT	Wood	Hallway	16	-	-	-
301	0.1	Negative	Clos. Wall	D	(All)	Green	INTACT	Wood	Hallway	16	-	-	-
302	13.1	Positive	Porch Ceiling	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
303	23	Positive	Porch Beam	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
304	8.9	Positive	Porch Column	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
305	24.5	Positive	Porch Rail	A	-	White	Deteriorated	Wood	Exterior House	17	Friction	Yes	No
306	0.2	Negative	Porch Floor	A	-	Grey	Deteriorated	Wood	Exterior House	17	-	-	-

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
307	21.5	Positive	Door Casing	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
308	0.4	Negative	Address Sign	A	-	White	Deteriorated	Wood	Exterior House	17	-	-	-
309	18.4	Positive	Win. Casing	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
310	23.1	Positive	Win. Sill-Stool	A	-	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
311	0	Negative	Door Casing	D	-	White	Deteriorated	Wood	Exterior House	17	-	-	-
312	14.7	Positive	Wall	D	-	Grey	Deteriorated	Wood	Exterior House	17	Weather	No	No
313	6.9	Positive	Win. Casing	D	2	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
314	0.1	Negative	Win. Sill-Stool	D	2	White	Deteriorated	Wood	Exterior House	17	-	-	-
315	0.1	Negative	Door Casing	D	2	White	Deteriorated	Wood	Exterior House	17	-	-	-
316	16.6	Positive	Win. Casing	C	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
317	2.4	Positive	Win. Sill-Stool	C	-	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
318	0.1	Negative	Fence	B	-	White	Deteriorated	Wood	Exterior House	17	-	-	-
319	13.9	Positive	Wall	B	-	White	INTACT	Wood	Exterior House	17	-	-	-
320	16.8	Positive	Wall	B	2	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
321	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
322	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
323	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
A-1	Assumed	Positive	Win. Sash Ext.	A	-	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
A-2	Assumed	Positive	Win. Casing	B	1	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-3	Assumed	Positive	Win. Sill-Stool	B	1	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
A-4	Assumed	Positive	Win. Casing	B	2	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-5	Assumed	Positive	Win. Sill-Stool	A	(All)	White	Deteriorated	Wood	Exterior House	17	Weather	Yes	No
A-6	Assumed	Positive	Win. Casing	B	-	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-7	Assumed	Positive	Win. Casing	C	(All)	White	Deteriorated	Wood	Exterior House	17	Weather	No	No

READING #	MG/CM ²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC-IMP	TEETH
A-8	Assumed	Positive	Win. Casing	A	(All)	White	Deteriorated	Wood	Exterior House	17	Weather	No	No
A-9	Assumed	Positive	Win. Sash Ext.	A	1	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-10	Assumed	Positive	Win. Stop Ext.	A	1	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-11	Assumed	Positive	Win. Sash Ext.	A	2	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-12	Assumed	Positive	Win. Stop Ext.	A	2	White	Deteriorated	Wood	Bedroom	14	Weather	Yes	No
A-13	Assumed	Positive	Win. Well-Trough	B	-	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
A-14	Assumed	Positive	Win. Jamb	B	-	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
A-15	Assumed	Positive	Win. Well-Trough	B	(All)	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
A-16	Assumed	Positive	Win. Jamb	B	(Al)	White	Deteriorated	Wood	Dining Room	3	Friction	Yes	No
A-17	Assumed	Positive	Win. Well-Trough	C	-	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
A-18	Assumed	Positive	Win. Jamb	C	-	White	Deteriorated	Wood	Dining Room	3	Friction	Yes	No

* HUD reporting limits for positive XRF results are ≥ 1.0 mg/cm² for painted or glazed surfaces.

D-2: XRF Device Used

Viken Pb200i

Viken Detection PCS December 2020

Performance Characteristic Sheet

EFFECTIVE DATE: December 1, 2020

MANUFACTURER AND MODEL:

Make: **Viken Detection** (previously Heuresis)

Models: **Model Pb200i**

Source: **⁵⁷Co, 5 mCi (nominal – new source)**

FIELD OPERATION GUIDANCE

Action Level Setting:

0.5 mg/cm²

OPERATING PARAMETERS:

Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm² (inclusive) at Action Level setting = 1.0 mg/cm²

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm²)
Results not corrected for substrate bias on any substrate	Brick	0.4 – 0.6
	Concrete	0.4 – 0.6
	Drywall	0.4 – 0.6
	Metal	0.4 – 0.6
	Plaster	0.4 – 0.6
	Wood	0.4 – 0.6

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*, 2012 Edition ("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 January 2020, with two separate instruments running software version Pb200i 5.0 (DEBUG version) in Action Level test mode. The actual source strength of each instrument on the day of testing was approximately 2.9 mCi; source ages were approximately 9 months.

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 *with the Action Level set to 1.0 mg/cm²* 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; for NIST SRM 2579a, use the 1.04 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.

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. 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:

The instrument time to take a reading varied within a narrow range from 5 to 6 seconds, with a small number (3%) of longer times from 7 to 11 seconds. The longer readings were almost all on wood substrates. This range of reading times applies only to instruments with the same source strength as those tested (2.9 mCi at the time of PCS testing). Instruments with stronger sources will have shorter reading times and those with weaker sources, longer reading times.

CLASSIFICATION OF RESULTS:

XRF results are classified as **positive** if they are **greater than or equal** to 0.6 mg/cm², **negative** if they are **less than or equal** to 0.4 mg/cm² and **inconclusive** if they are **equal** to 0.5 mg/cm².

DOCUMENTATION:

This XRF Performance Characteristic Sheet (PCS) was developed by QuanTech, Inc., under a contract with the U.S. Department of Housing and Urban Development, Office of Lead Hazard Control and Healthy Homes.

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm², 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>. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

APPENDIX E – LABORATORIES USED & ORIGINAL LABORATORY ANALYSIS REPORTS

E-1: Laboratories Used

Trace Metals Laboratory used to test dust and soil samples:

ACCURATE Analytical Testing LLC
30105 Beverly Road
Romulus, MI 48174
1-734-629-8161

E-2: Original Laboratory Analysis Reports

All of the original laboratory analysis reports for any samples that were sent for testing are included in the following pages.



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

Certificate of Analysis: Lead In Dust Wipe by EPA Method 7000B/NIOSH 7082*

Client : Environmental Testing and Consulting R
 38900 Huron River Drive
 Romulus, MI 48174

Attn : ETC **Email :** labresults@2etc.com
Phone : 734-955-6600 **Fax :** 734-955-6604

AAT Project : 1026361
Sampling Date : 05/06/2024
Date Received : 05/09/2024
Date Analyzed : 05/10/2024
Date Reported : 05/13/2024

Client Project : 269011

Project Location : 1316 Jerome, Lansing, MI 48912

Lab Sample ID	Client Code	Sample Description	Length (inch)	Width (inch)	Area (Sq ft)	Results Lead µg/ft2 *
9383871	FB1	NA Field Blank	N/A	N/A	N/A	N/D
9383872	DW01	HF Living Room 2	12	12	1.00	51.4
9383873	DW02	T Living Room 2 A	36.75	4.25	1.08	764
9383874	DW03	HF Dining Room 3	12	12	1.00	132
9383875	DW04	S Dining Room 3 C	39	3.5	0.95	76.6
9383876	DW05	HF Kitchen 4	12	12	1.00	1070
9383877	DW06	T Kitchen 4 D	33.5	3.2	0.74	235
9383878	DW07	S Kitchen 4 D	37	3	0.77	881
9383879	DW08	HF Bedroom 9	12	12	1.00	6010
9383880	DW09	T Bedroom 9 A	35	4.5	1.09	135
9383881	DW10	HF Bedroom 10	12	12	1.00	48.3
9383882	DW11	S Bedroom 10 C	35	3.25	0.79	207
9383883	DW12	HF Bathroom 11	12	12	1.00	219
9383884	DW13	T Bathroom 11 C	32.75	3.5	0.80	41.5
9383885	DW14	HF Front Porch	12	12	1.00	174
9383886	DW15	HF Back Porch	12	12	1.00	22.0

ND = Not Detected, N/A = Not Available, RL = Reporting Limit, Analytical Reporting Limit is 5 ug/sample. For true values assume (3) significant figures. AAT internal SOP S205. The method and batch QC are acceptable unless otherwise stated. EPA Regulatory Limits: 10 ug/ft2 (Floors, Carpeted/Uncarpeted), 100 ug/ft2 (Window Sill/Stools), 400 ug/ft2 (Window Trough/Well/Ext Concrete Surfaces). HUD Grantee Regulatory Limits: 10 ug/ft2 (Interior Floors), 40 ug/ft2 (Porch Floors), 100 ug/ft2 (Window Sills), 100 ug/ft2 (Window Troughs). The laboratory operates in accord with ISO 17025 guidelines and holds limited scopes of accreditation under AIHA-LAP and NY State DOH ELAP programs. These results are submitted pursuant to AAT, LLC current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. Analytical results relate to the samples as received by the lab. AAT will not assume any liability or responsibility for the manner in which the results are used or interpreted. All Quality Control requirements for the samples this report contains have been met. AAT does not blank correct reported values. Sample data apply only to items analyzed. Results are calculated with wipe dimensions supplied by client. Reproduction of this document other than in its entirety is not authorized by AAT, LLC. * = Validated modified method. Samples are stored for 15 days following report date.



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

Date Printed: 05/13/2024

AAT Project: 1026361

Lab Sample ID	Client Code	Sample Description	Length (inch)	Width (inch)	Area (Sq ft)	Results Lead $\mu\text{g}/\text{ft}^2$ *
---------------	-------------	--------------------	---------------	--------------	--------------	--

Analyst Signature

Alexis Pheeneey

Tom Hamlin

ND = Not Detected, N/A = Not Available, RL = Reporting Limit, Analytical Reporting Limit is 5 ug/sample. For true values assume (3) significant figures. AAT internal SOP S205. The method and batch QC are acceptable unless otherwise stated. EPA Regulatory Limits: 10 ug/ft2 (Floors, Carpeted/Uncarpeted), 100 ug/ft2 (Window Sill/Stools), 400 ug/ft2 (Window Trough/Well/Ext Concrete Surfaces). HUD Grantee Regulatory Limits: 10 ug/ft2 (Interior Floors), 40 ug/ft2 (Porch Floors), 100 ug/ft2 (Window Sills), 100 ug/ft2 (Window Troughs). The laboratory operates in accord with ISO 17025 guidelines and holds limited scopes of accreditation under AIHA-LAP and NY State DOH ELAP programs. These results are submitted pursuant to AAT, LLC current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. Analytical results relate to the samples as received by the lab. AAT will not assume any liability or responsibility for the manner in which the results are used or interpreted. All Quality Control requirements for the samples this report contains have been met. AAT does not blank correct reported values. Sample data apply only to items analyzed. Results are calculated with wipe dimensions supplied by client. Reproduction of this document other than in its entirety is not authorized by AAT, LLC. * = Validated modified method. Samples are stored for 15 days following report date.



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

Client : Environmental Testing and Consulting R
 38900 Huron River Drive
 Romulus, MI 48174

Attn : ETC **Email :** labresults@2etc.com
Phone : 734-955-6600 **Fax :** 734-955-6604

Client Project : 269011

Project Location : 1316 Jerome, Lansing, MI 48912

AAT Project : 1026361

Sampling Date : 05/06/2024

Date Received : 05/09/2024

Date Analyzed : 05/13/2024

Date Reported : 05/13/2024

Lab Sample ID	Client Code	Sample Description	Results Lead µg/g (PPM)	Calculated RL µg/g *
9383887	SS-1	soil Front Yard	1500	10.0
9383888	SS-2	soil Dripline A	388	10.3
9383889	SS-3	soil Dripline D	141	10.2
9383890	SS-4	soil Back Yard	<10.3	10.3

Analyst Signature



Alexis Pheeneey



Tom Hamlin

*RL= Reporting Limit * For true values assume (3) significant figures. The method and batch QC are acceptable unless otherwise stated. Current EPA/HUD Interim Standard for soil samples are: 400 PPM (parts per million) for play area's, 1200 PPM for building Perimeters and 1000 PPM for California Building Perimeters. AAT internal sop S204. The laboratory operates in accord with ISO 17025 guidelines and holds limited scopes of accreditation under AIHA-LAP and NY State DOH ELAP programs. These results are submitted pursuant to AAT LLC current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. Analytical results relate to the samples as received by the lab. AAT will not assume any liability or responsibility for the manner in which the results are used or interpreted. Reproduction of this document other than in its entirety is not permitted. AAT does not blank correct reported values. Sample data apply only to items analyzed. Samples are stored for 15 days following report date. *= Validated modified method

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

Date Printed: 05/13/2024 9:39AM

AAT Project: 1026361





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

To : Environmental Testing and Consulting R
38900 Huron River Drive
Romulus, MI 48174

AAT Project : 1026361
Client Project : 269011
Date Reported : 05/13/2024

Attn : ETC Email : labresults@2etc.com
Phone : 734-955-6600

Project Location : 1316 Jerome, Lansing, MI 48912

Sample	Client Code	Analysis Requested	Completed	Analyst
9383871	FB1	Dust Wipe	05/10/2024	Alexis Pheeneey
9383872	DW01	Dust Wipe	05/10/2024	Alexis Pheeneey
9383873	DW02	Dust Wipe	05/10/2024	Alexis Pheeneey
9383874	DW03	Dust Wipe	05/10/2024	Alexis Pheeneey
9383875	DW04	Dust Wipe	05/10/2024	Alexis Pheeneey
9383876	DW05	Dust Wipe	05/10/2024	Alexis Pheeneey
9383877	DW06	Dust Wipe	05/10/2024	Alexis Pheeneey
9383878	DW07	Dust Wipe	05/10/2024	Alexis Pheeneey
9383879	DW08	Dust Wipe	05/10/2024	Alexis Pheeneey
9383880	DW09	Dust Wipe	05/10/2024	Alexis Pheeneey
9383881	DW10	Dust Wipe	05/10/2024	Alexis Pheeneey
9383882	DW11	Dust Wipe	05/10/2024	Alexis Pheeneey
9383883	DW12	Dust Wipe	05/10/2024	Alexis Pheeneey
9383884	DW13	Dust Wipe	05/10/2024	Alexis Pheeneey
9383885	DW14	Dust Wipe	05/10/2024	Alexis Pheeneey
9383886	DW15	Dust Wipe	05/10/2024	Alexis Pheeneey
9383887	SS-1	Lead Soil	05/13/2024	Tom Hamlin
9383888	SS-2	Lead Soil	05/13/2024	Tom Hamlin
9383889	SS-3	Lead Soil	05/13/2024	Tom Hamlin
9383890	SS-4	Lead Soil	05/13/2024	Tom Hamlin

This report is intended for use solely by the individual or entity to which it is addressed. It may contain information that is privileged, confidential and otherwise exempt by law from disclosure. If the reader of this information is not the intended recipient or an employee of its intended recipient, you are herewith notified that any dissemination, distribution or copying of this information is strictly prohibited. If you have received this information in error, please notify AAT immediately. Thank you.



Reviewed By

Elyse Bidle
Quality Assurance Coordinator

This report is intended for use solely by the individual or entity to which it is addressed. It may contain information that is privileged, confidential and otherwise exempt by law from disclosure. If the reader of this information is not the intended recipient or an employee of its intended recipient, you are herewith notified that any dissemination, distribution or copying of this information is strictly prohibited. If you have received this information in error, please notify AAT immediately. Thank you.

Submitting Company :

Environmental Testing and Consulting R
38900 Huron River Drive
Romulus, MI - 48174

AAT Project : 1026361

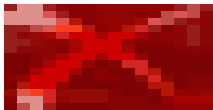
Turn Around: 48 Hours

Project Location: 1316 Jerome, Lansing, MI 48912

Client Job: 269011

Lab Sample	Sample Description	Barcode	Client Code	Sample Type	Dimension	Field Blank	Other Analysis
9383871	N/A Field Blank	1663883	FB1	Dust Wipe	0 x 0	Yes	None
9383872	HF Living Room 2	1663884	DW01	Dust Wipe	12 x 12	No	None
9383873	T Living Room 2 A	1663885	DW02	Dust Wipe	36.75 x 4.25	No	None
9383874	HF Dining Room 3	1663886	DW03	Dust Wipe	12 x 12	No	None
9383875	S Dining Room 3 C	1663887	DW04	Dust Wipe	39 x 3.5	No	None
9383876	HF Kitchen 4	1663888	DW05	Dust Wipe	12 x 12	No	None
9383877	T Kitchen 4 D	1663889	DW06	Dust Wipe	33.5 x 3.2	No	None
9383878	S Kitchen 4 D	1663890	DW07	Dust Wipe	37 x 3	No	None
9383879	HF Bedroom 9	1663891	DW08	Dust Wipe	12 x 12	No	None
9383880	T Bedroom 9 A	1663892	DW09	Dust Wipe	35 x 4.5	No	None
9383881	HF Bedroom 10	1663893	DW10	Dust Wipe	12 x 12	No	None

Lab Sample	Sample Description	Barcode	Client Code	Sample Type	Dimension	Field Blank	Other Analysis
9383882	S Bedroom 10 C	1663894	DW11	Dust Wipe	35 x 3.25	No	None
9383883	HF Bathroom 11	1663895	DW12	Dust Wipe	12 x 12	No	None
9383884	T Bathroom 11 C	1663896	DW13	Dust Wipe	32.75 x 3.5	No	None
9383885	HF Front Porch	1663897	DW14	Dust Wipe	12 x 12	No	None
9383886	HF Back Porch	1663898	DW15	Dust Wipe	12 x 12	No	None
9383887	soil Front Yard	1663899	SS-1	Lead Soil	0 x 0	No	None
9383888	soil Dripline A	1663900	SS-2	Lead Soil	0 x 0	No	None
9383889	soil Dripline D	1663901	SS-3	Lead Soil	0 x 0	No	None
9383890	soil Back Yard	1663902	SS-4	Lead Soil	0 x 0	No	None



Sampled By: Brandon Lee

Seal Intact: Yes
Preservative (if required): Yes
Containers Labeled : Yes



Received By: Peter Tirpak

Analyst: Tom Hamlin

Relinquished By: Elyse Bidle

Received Date: 05/09/2024 08:00

Relinquished Date: 05/13/2024 09:30