Lead Inspection & Risk Assessment Report

FOR THE PROPERTY AT:

123 Ferguson Street

Lansing, MI 48912

Date of Construction: 1914

ETC Job #: 269256

Prepared For

Ingham County Land Bank
3024 Turner Street
Lansing, MI 48906
517-267-5221

Date of Inspection: 05/13/2024

Date of Report: 05/22/2024

Report Prepared and Submitted By:

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Purpose of Environmental Investigation

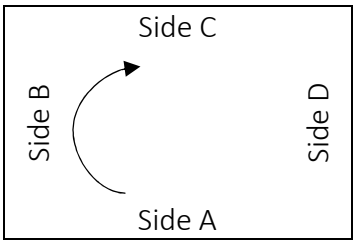
The purpose of this report is to share lead-testing results. *Please refer to Appendix C-3 for your future responsibilities as they relate to this report.* Use the "Key Definitions" below as a guide when reading the results. **Floor plan maps are provided in Appendix B-3 – use these as a guide when reading 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.



(Address Side)

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.	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 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.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
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.
Exterior House # 18				
Side A Door Threshold & Side D Door, Stop & Jamb represent deteriorated lead paint surface hazards.	2	2	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.
Side B & D Basement Window Casings, Jambs, Stops Ext. & Sashes Ext. represent deteriorated lead paint surface hazards.	3	3	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) 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 C White Wood Window Casing represents a deteriorated lead paint surface hazard.	3	3	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Living Room # 2				
All White Wood Window Sashes Ext., Stops Ext., Jambs, Parting Beads & Wells-Troughs 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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side C Closet Shelf represents a deteriorated lead paint surface hazard.	3	3	1) Remove and replace with new components or 2) wet scrape/sand all surfaces, make necessary repairs, stabilize surfaces and encapsulate with a Michigan approved encapsulant or 3) strip all surfaces bare to the substrate (either chemically or using mechanical wet methods), make necessary repairs and recoat.	Wet scrape / sand all surfaces, make necessary repairs, stabilize all surfaces and repaint.
Side C Closet Wall represents a deteriorated lead paint surface hazard.	3	3	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.

COMPONENT & LOCATION OF HAZARD	SEVERITY*	PRIORITY**	ABATEMENT OPTIONS	INTERIM CONTROL OPTIONS
Dining Room # 3				
All White Wood Window Sashes Ext., Stops Ext., Jambs, Parting Beads & Wells-Troughs 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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Kitchen # 4				
Side D2 White Wood Window Sash Ext., Stop Ext., Jamb & Parting Bead 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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Stairwell # 7				
Side D1 Window Jamb, Stop Ext. & Sash Ext. 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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) 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 D2 Window Sash Ext., Stop Ext., Jamb, Parting Bead & Well-Trough were inaccessible due to being walled off from the outside. is an untested other surface in deteriorated condition that must be considered to be a lead paint hazard.	3	3	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Bedroom # 9				
Side A(All) White Wood Window Jambs 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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Bedroom # 10				
Side B(All) White Wood Window Casing represents deteriorated lead paint surface hazards.	3	3	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) 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
Sides A1 & B1 Window Sashes Ext., Stops Ext., Jambs, Parting Beads & Wells-Trough were inaccessible due to being painted shut. is an untested other surface in deteriorated condition that must be considered to be a lead paint hazard.	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Kitchen # 11				
Side C1 Window Sash Ext., Stop Ext., Jamb, Parting Bead & Well-Trough were inaccessible due to being painted shut. is an untested other surface in deteriorated condition that must be considered to be a lead paint hazard.	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Bathroom # 12				
Side C1 Window Sash Ext., Stop Ext., Jamb, Parting Bead & Well-Trough were inaccessible due to being painted shut. is an untested other surface in deteriorated condition that must be considered to be a lead paint hazard.	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) 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
Basement Stair # 13				
Side D Door Casing represents a deteriorated lead paint surface hazard.	3	3	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.
Attic # 17				
Sides A1 & A2 Window Sashes Ext., Stops Ext., Jambs, Parting Beads & Wells-Trough were inaccessible due to being sealed shut. Is an untested other surface in deteriorated condition that must be considered to be a lead paint hazard.	3	3	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.	1) Use friction reduction treatments (jamb liners, weatherstripping, rubber padding, tread covers, etc.) to reduce wear or 2) Wet plane all friction / impact surfaces, wet scrape all remaining surfaces, make necessary repairs, stabilize all surfaces and repaint.
Entire Home				
After having completed all other abatement and interim control options.	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/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
15	5.7	Positive	Win. Sash Ext.	All	(All)	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
16	18.9	Positive	Win. Stop Ext.	All	(All)	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
17	13.1	Positive	Win. Jamb	All	(All)	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
18	12.2	Positive	Win. Part Bead	All	(All)	White	Deteriorated	Wood	Living Room	2	Friction	Yes	No
19	10.7	Positive	Win. Well-Trough	All	(All)	White	Deteriorated	Wood	Living Room	2	Weather	Yes	No
28	1.8	Positive	Clos. Shelf	C	-	White	Deteriorated	Wood	Living Room	2	Impact	Yes	No
29	2.1	Positive	Clos. Wall	C	-	White	Deteriorated	Drywall	Living Room	2	Impact	No	No
48	5.4	Positive	Win. Sash Ext.	All	(All)	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
49	17	Positive	Win. Stop Ext.	All	(All)	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
50	12.3	Positive	Win. Jamb	All	(All)	White	Deteriorated	Wood	Dining Room	3	Friction	Yes	No
51	10.2	Positive	Win. Part Bead	All	(All)	White	Deteriorated	Wood	Dining Room	3	Friction	Yes	No
52	14.5	Positive	Win. Well-Trough	All	(All)	White	Deteriorated	Wood	Dining Room	3	Weather	Yes	No
81	15.9	Positive	Win. Stop Ext.	D	2	White	Deteriorated	Wood	Kitchen	4	Weather	Yes	No
82	11.9	Positive	Win. Sash Ext.	D	2	White	Deteriorated	Wood	Kitchen	4	Weather	Yes	No
83	13.8	Positive	Win. Jamb	D	2	White	Deteriorated	Wood	Kitchen	4	Friction	Yes	No
84	11.5	Positive	Win. Part Bead	D	2	White	Deteriorated	Wood	Kitchen	4	Friction	Yes	No
85	15.5	Positive	Win. Well-Trough	D	2	White	INTACT	Metal	Kitchen	4	-	-	-
91	1.1	Positive	Clos. Shelf	A	-	White	INTACT	Wood	Kitchen	4	-	-	-
108	1	Positive	Win. Sash Ext.	D	-	White	INTACT	Wood	Bathroom	5	-	-	-

READING #	MG/CM^2	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
111	1	Positive	Win. Well-Trough	D	-	White	INTACT	Metal	Bathroom	5	-	-	-
144	5	Positive	Door Threshold	A	-	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
145	3.8	Positive	Win. Casing	B	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	No	No
146	22.6	Positive	Win. Jamb	B	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
147	21.4	Positive	Win. Stop Ext.	B	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
148	21.3	Positive	Win. Sash Ext.	B	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
149	19.5	Positive	Win. Casing	C	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	No	No
150	20.8	Positive	Win. Casing	D	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	No	No
151	22.6	Positive	Win. Jamb	D	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
152	21.4	Positive	Win. Stop Ext.	D	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
153	21.3	Positive	Win. Sash Ext.	D	(All)	White	Deteriorated	Wood	Exterior House	18	Weather	Yes	No
154	18.4	Positive	Door	D	-	White	Deteriorated	Wood	Exterior House	18	Friction	Yes	No
155	13	Positive	Door Stop	D	-	White	Deteriorated	Wood	Exterior House	18	Impact	Yes	No
156	11.7	Positive	Door Jamb	D	-	White	Deteriorated	Wood	Exterior House	18	Friction	Yes	No
174	13.7	Positive	Win. Jamb	A	(All)	White	Deteriorated	Wood	Bedroom	9	Friction	Yes	No
185	1.3	Positive	Win. Casing	B	(All)	White	Deteriorated	Wood	Bedroom	10	Impact	Yes	No
220	19.5	Positive	Win. Jamb	D	1	White	Deteriorated	Wood	Stairwell	7	Friction	Yes	No
221	18.7	Positive	Win. Stop Ext.	D	1	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
222	16.5	Positive	Win. Sash Ext.	D	1	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
233	13.8	Positive	Door Casing	D	-	White	Deteriorated	Wood	Basement Stair	13	Impact	Yes	No
A1	ASSUMED	Positive	Win. Sash Ext.	A	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A2	ASSUMED	Positive	Win. Stop Ext.	A	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A3	ASSUMED	Positive	Win. Jamb	A	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A4	ASSUMED	Positive	Win. Part Bead	A	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A5	ASSUMED	Positive	Win. Well-Trough	A	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No

READING #	MG/CM^2	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
A6	ASSUMED	Positive	Win. Sash Ext.	B	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A7	ASSUMED	Positive	Win. Stop Ext.	B	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A8	ASSUMED	Positive	Win. Jamb	B	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A9	ASSUMED	Positive	Win. Part Bead	B	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A10	ASSUMED	Positive	Win. Well-Trough	B	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A11	ASSUMED	Positive	Win. Sash Ext.	C	1	White	Deteriorated	Wood	Kitchen	11	Weather	Yes	No
A12	ASSUMED	Positive	Win. Stop Ext.	C	1	White	Deteriorated	Wood	Kitchen	11	Weather	Yes	No
A13	ASSUMED	Positive	Win. Jamb	C	1	White	Deteriorated	Wood	Kitchen	11	Friction	Yes	No
A14	ASSUMED	Positive	Win. Part Bead	C	1	White	Deteriorated	Wood	Kitchen	11	Friction	Yes	No
A15	ASSUMED	Positive	Win. Well-Trough	C	1	White	Deteriorated	Wood	Kitchen	11	Weather	Yes	No
A16	ASSUMED	Positive	Win. Sash Ext.	C	1	White	Deteriorated	Wood	Bathroom	12	Weather	Yes	No
A17	ASSUMED	Positive	Win. Stop Ext.	C	1	White	Deteriorated	Wood	Bathroom	12	Weather	Yes	No
A18	ASSUMED	Positive	Win. Jamb	C	1	White	Deteriorated	Wood	Bathroom	12	Friction	Yes	No
A19	ASSUMED	Positive	Win. Part Bead	C	1	White	Deteriorated	Wood	Bathroom	12	Friction	Yes	No
A20	ASSUMED	Positive	Win. Well-Trough	C	1	White	Deteriorated	Wood	Bathroom	12	Weather	Yes	No
A21	ASSUMED	Positive	Win. Sash Ext.	D	2	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
A22	ASSUMED	Positive	Win. Stop Ext.	D	2	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
A23	ASSUMED	Positive	Win. Jamb	D	2	White	Deteriorated	Wood	Stairwell	7	Friction	Yes	No
A24	ASSUMED	Positive	Win. Part Bead	D	2	White	Deteriorated	Wood	Stairwell	7	Friction	Yes	No
A25	ASSUMED	Positive	Win. Well-Trough	D	2	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
A26	ASSUMED	Positive	Win. Sash Ext.	A	1	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A27	ASSUMED	Positive	Win. Stop Ext.	A	1	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A28	ASSUMED	Positive	Win. Jamb	A	1	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A29	ASSUMED	Positive	Win. Part Bead	A	1	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A30	ASSUMED	Positive	Win. Well-Trough	A	1	White	Deteriorated	Wood	Attic	17	Weather	Yes	No

READING #	MG/CM^2	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FREC-IMP	TEETH
A31	ASSUMED	Positive	Win. Sash Ext.	A	2	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A32	ASSUMED	Positive	Win. Stop Ext.	A	2	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A33	ASSUMED	Positive	Win. Jamb	A	2	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A34	ASSUMED	Positive	Win. Part Bead	A	2	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A35	ASSUMED	Positive	Win. Well-Trough	A	2	White	Deteriorated	Wood	Attic	17	Weather	Yes	No

HUD reporting limits for positive XRF results are ≥ 1.0 mg/cm^2 (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 HF Hard Floor CF Carpet Floor T Trough S Stool/Sill O Other	LEAD HAZARD?	LAB RESULT (µG/FT²)
FB1	Field Blank	N/A	No	N/D
DW01	Living Room 2	HF	Yes	31.2
DW02	Living Room 2 Side B1	S	Yes	1130
DW03	Kitchen 4	HF	Yes	219
DW04	Kitchen 4 Side D2	T	Yes	5590
DW05	Bedroom 6	HF	Yes	29.3
DW06	Bedroom 6 Side C1	T	No	88.3
DW07	Bedroom 9	HF	Yes	11.5
DW08	Bedroom 9 Side A1	S	No	89.9
DW09	Bedroom 9 Side A1	T	Yes	4900
DW10	Bedroom 10	HF	Yes	12.5
DW11	Bedroom 10 Side B1	S	Yes	990
DW12	Bathroom 12	HF	Yes	30.3
DW13	Bathroom 12 Side C1	S	Yes	267
DW14	Porch Side A	HF	No	7.13

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	House Dripline Side A	45	No	337
SS-2	Bare Soil Side C	250	No	282

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/cm^2 = 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
Stairwell 7 – (Side D2)	Window Sash Ext., Stop Ext., Jamb, Parting Bead & Well-Trough	Walled off
Bedroom 10 – (Sides A1 & B1)	Window Sashes Ext., Stops Ext., Jambs, Parting Beads & Wells-Troughs	Painted shut
Kitchen 11 – (Side C1)	Window Sash Ext., Stop Ext., Jamb, Parting Bead & Well-Trough	Painted shut
Bathroom 12 – (Side C1)	Window Sash Ext., Stop Ext., Jamb, Parting Bead & Well-Trough	Painted shut
Attic 17 – (Sides A1 & A2)	Window Sashes Ext., Stops Ext., Jambs, Parting Beads & Wells-Troughs	Painted shut

HUD reporting limits for positive XRF results are ≥1.0 mg/cm^2 (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
85	15.5	Positive	Win. Well-Trough	D	2	White	INTACT	Metal	Kitchen	4	-	-	-
91	1.1	Positive	Clos. Shelf	A	-	White	INTACT	Wood	Kitchen	4	-	-	-
108	1	Positive	Win. Sash Ext.	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
111	1	Positive	Win. Well-Trough	D	-	White	INTACT	Metal	Bathroom	5	-	-	-

HUD reporting limits for positive XRF results are ≥1.0 mg/cm^2 (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.

David Franklin

Michigan Certified Lead Inspector/Risk Assessor: P-09210

Risk Assessor E-Mail: David.Franklin@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?	
☐ Industrial (big) crayons or markers ☐ Paints ☐ Detergents ☐ Shellacs ☐ Dyes ☐ Batteries ☐ Lacquers ☐ Coloring pigments ☐ Gear oil ☐ Epoxy resins ☐ Putty ☐ Pipe sealants ☐ 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?	No
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 is vinyl sided with aluminum/vinyl wrapped trim. The windows are wood and steel. Stairs 7 on Side D1 the window is fixed. The entry doors are steel pre-hung and wood pre-hung. Kitchen 4 & 2nd floor cabinets are prefabricated. The exterior porches are concrete. 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:	No

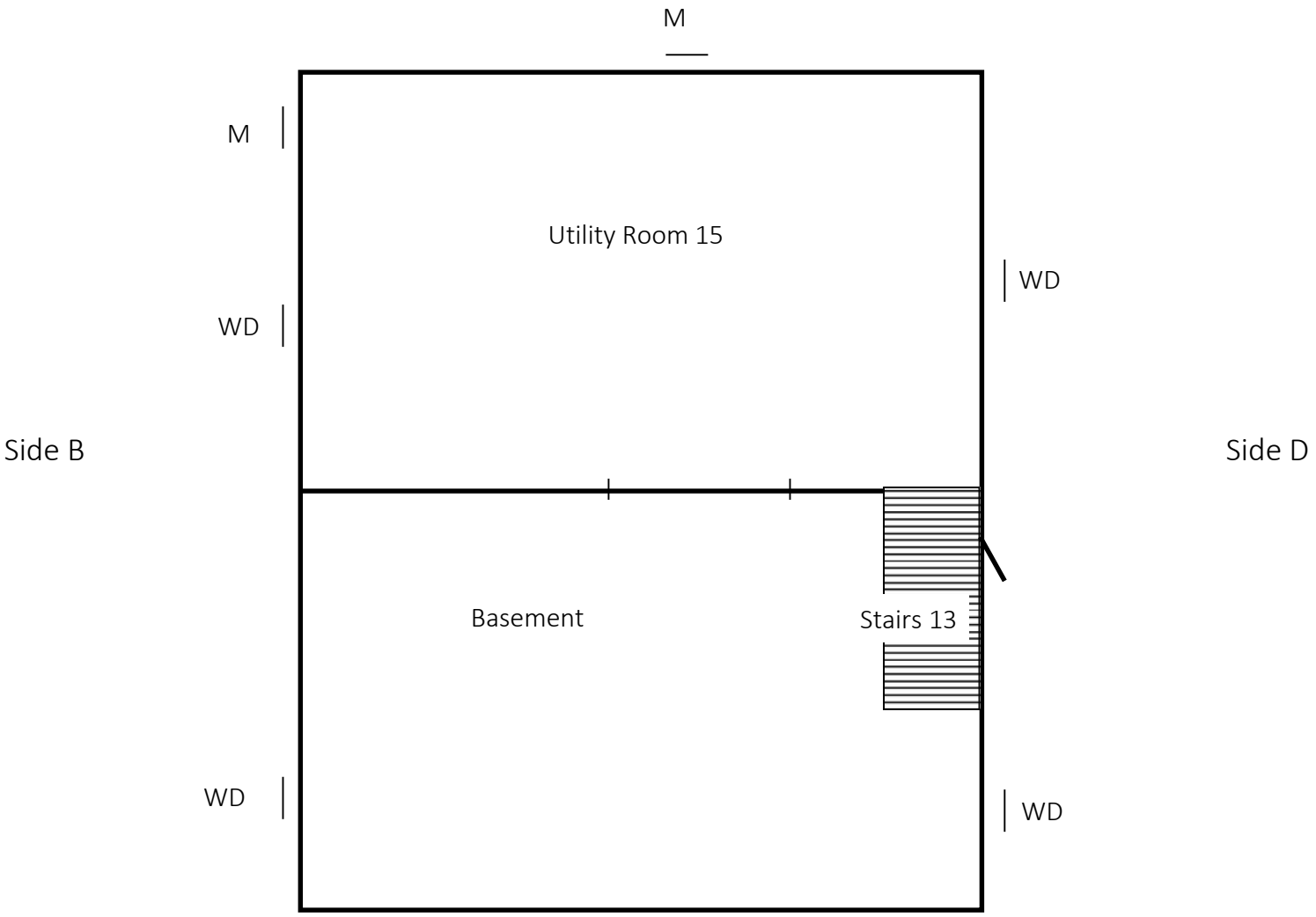
EXTERIOR BUILDING CONDITION	
QUESTION	RESPONSE
Is exterior siding missing components?	No
Is the roof missing parts?	No
Does the roof have holes or large cracks?	No
Are gutters or downspouts broken?	Yes Side C gutter
Are there two or more windows or doors missing, broken or boarded up?	Yes Stairs 7 Side D1
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:	No

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?	Yes All Rooms
Do interior walls have large cracks, or damage requiring more than routine painting?	Yes All Rooms
Is there any deteriorated paint in the home?	Yes
Are vinyl mini blinds present? Does child have access?	Yes N/A
*Is the bathtub deteriorated? Does the child bathe in it? **Follow MDHHS Residential Lead Hazard Control-Lead in Water Protocol*	No N/A
Other notable conditions:	No

B-3: Floor Plans

INTERIOR BASEMENT

Side C



Side A

N

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

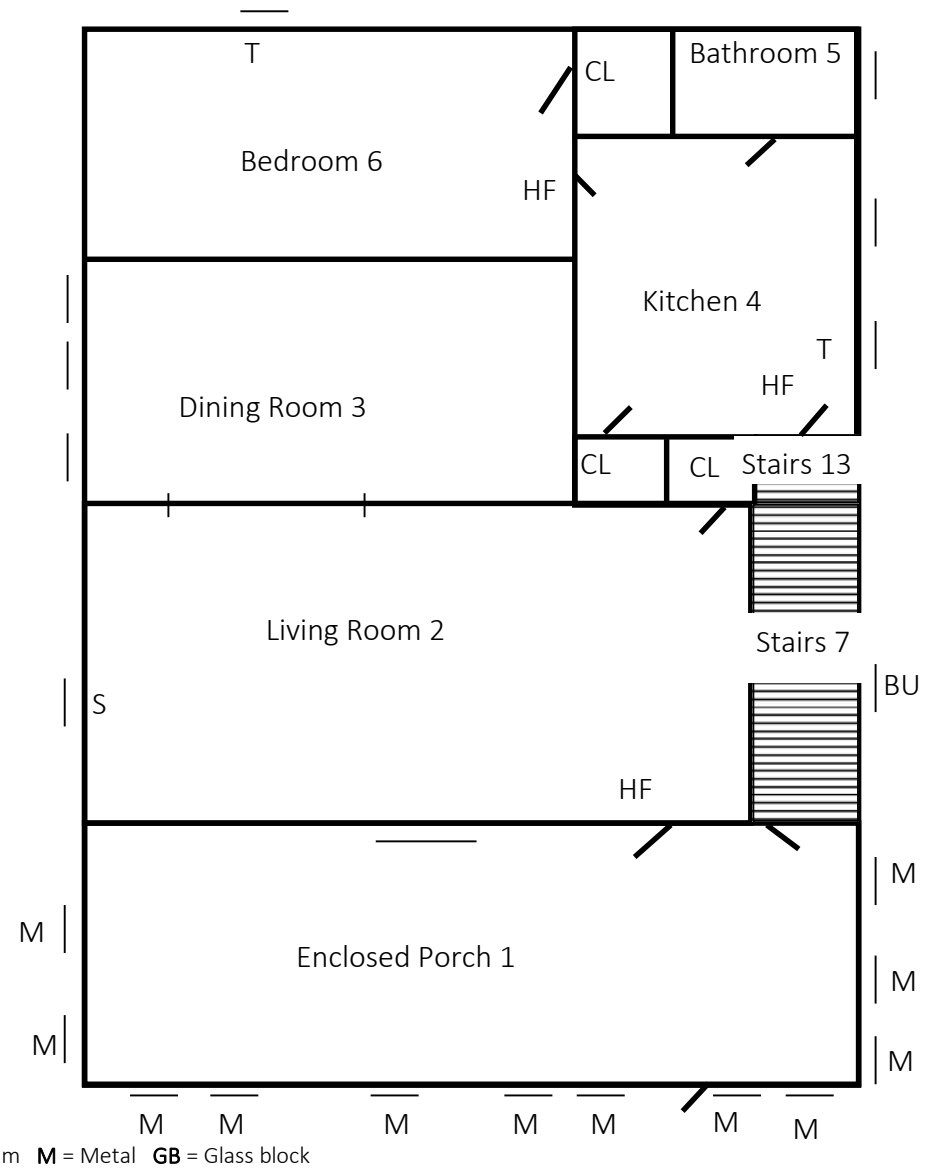
CL=Closet

B-3: Floor Plans

Side C

INTERIOR FIRST FLOOR

*All windows are wood unless noted



Side B

Side D

Side A

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

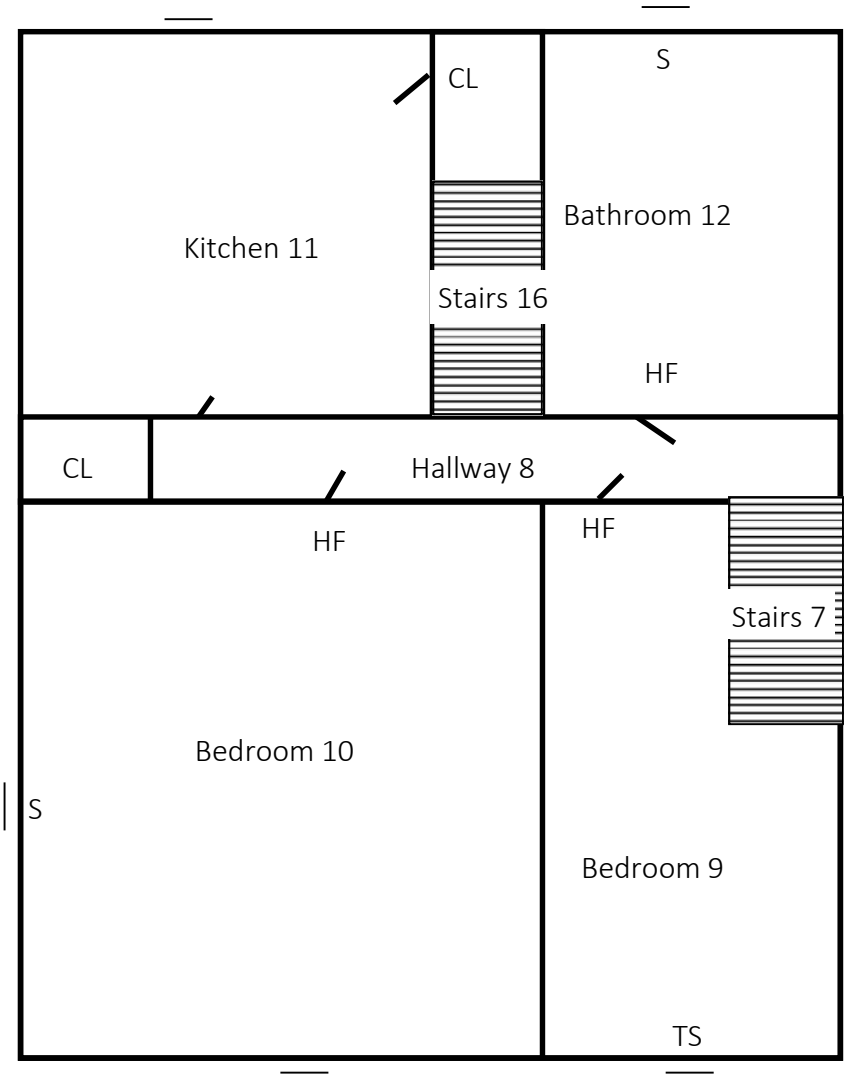
B-3: Floor Plans

Side C

INTERIOR SECOND FLOOR

*All windows are wood.

Side B



Side D

Side A

N

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:
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BTF=Bathroom Tub Faucet, **LF**=Laundry Faucet, **RF**=Refrigerator Faucet
WH = Water Heater **WM** = Water meter

CL=Closet

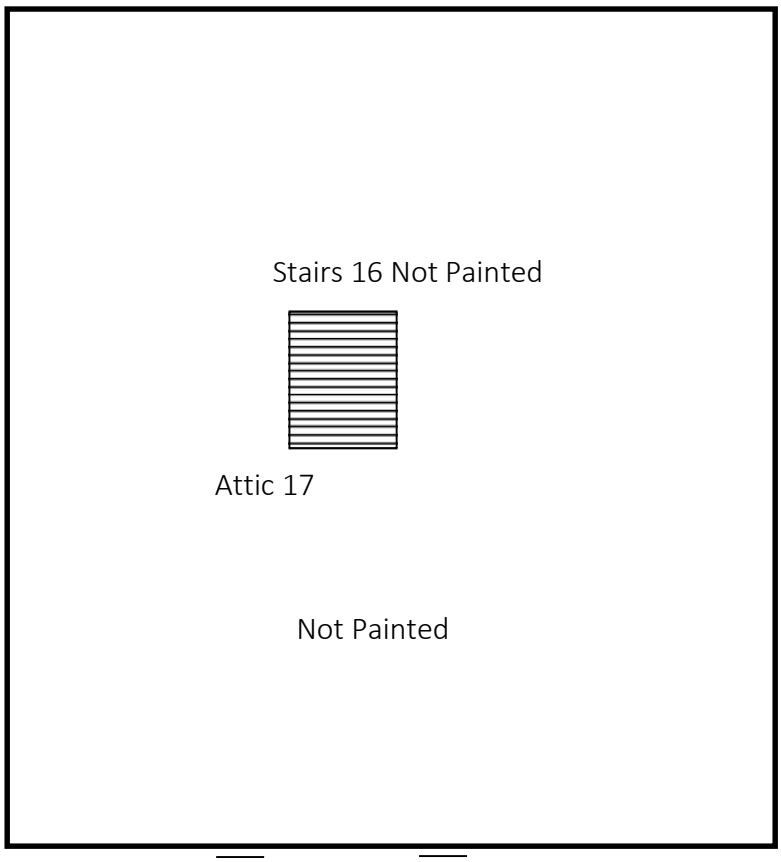
B-3: Floor Plans

INTERIOR ATTIC

Side C

*All windows are wood.

Side B



Side D

Side A

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.

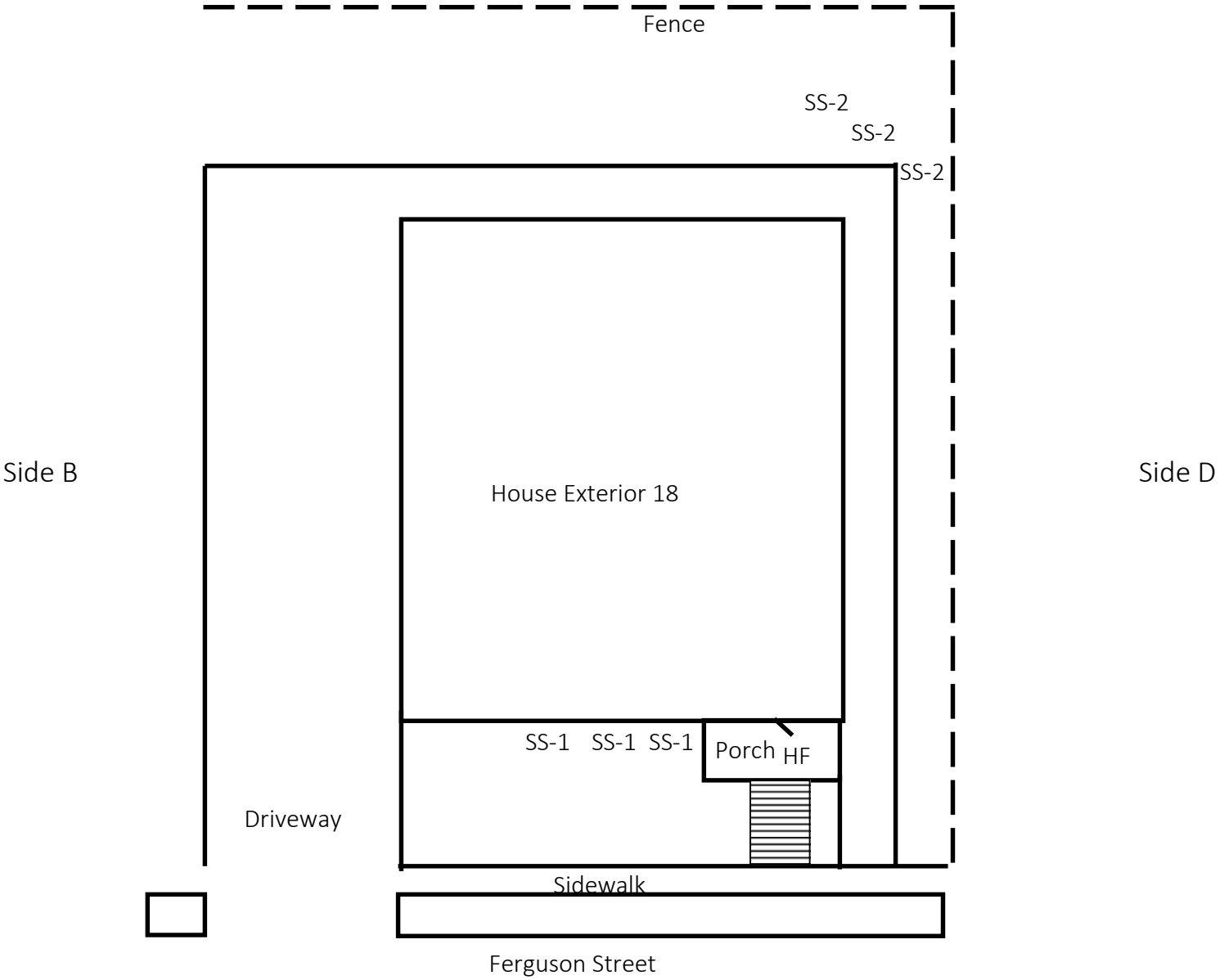
N

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-3: Floor Plans

EXTERIOR PROPERTY LAYOUT



Window types:
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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

B-4: Photos

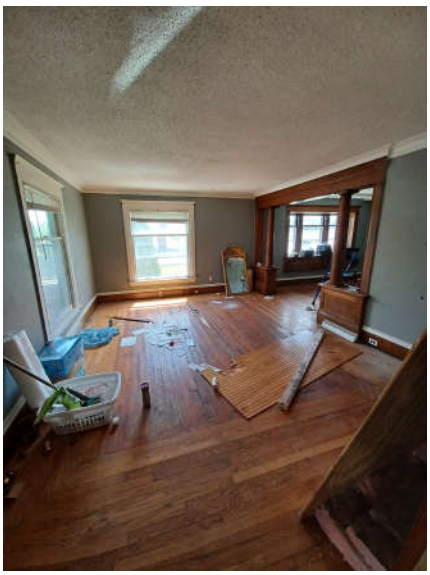
Side A

Side B

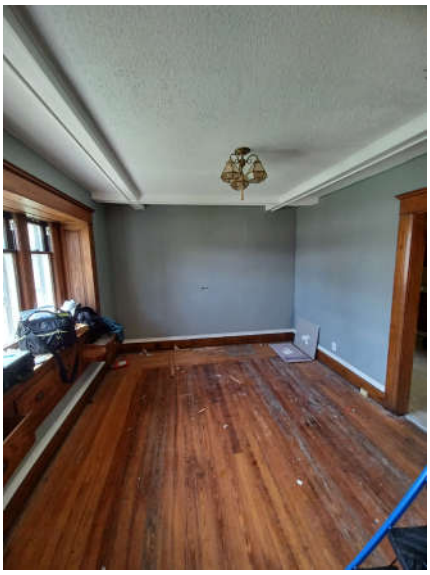
Side C

Side D

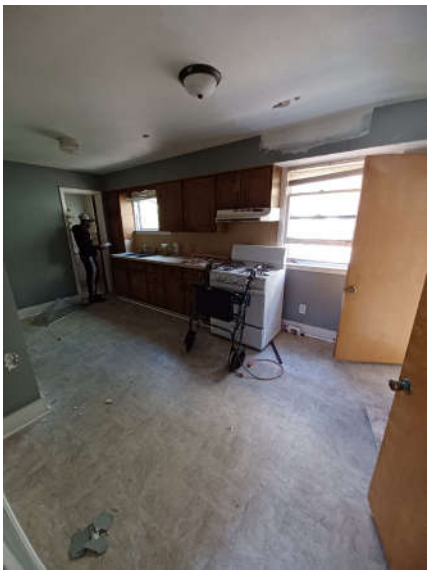
Enclosed Porch 1



Living Room 2

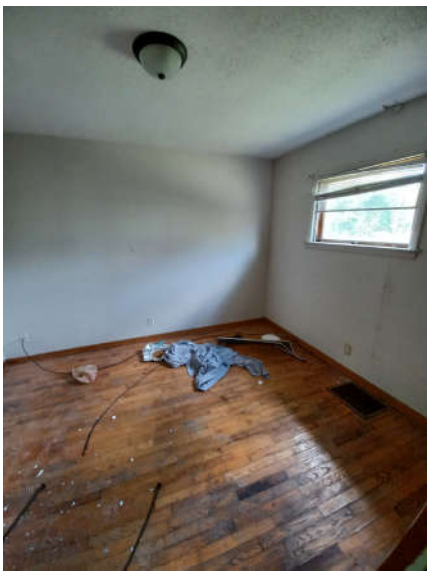


Dining Room 3

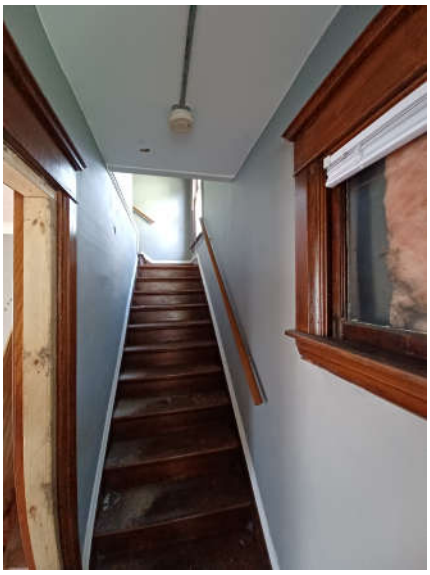


Kitchen 4

Bathroom 5

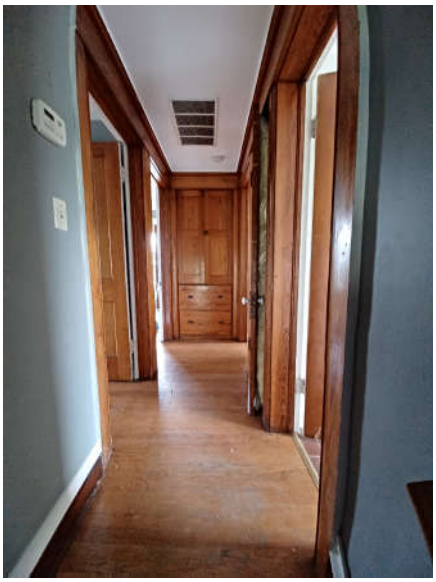


Bedroom 6



Stairs 7

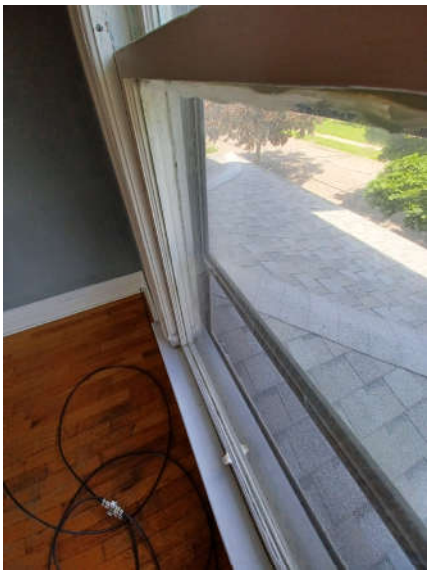
Stairs 7 Side D2 Window



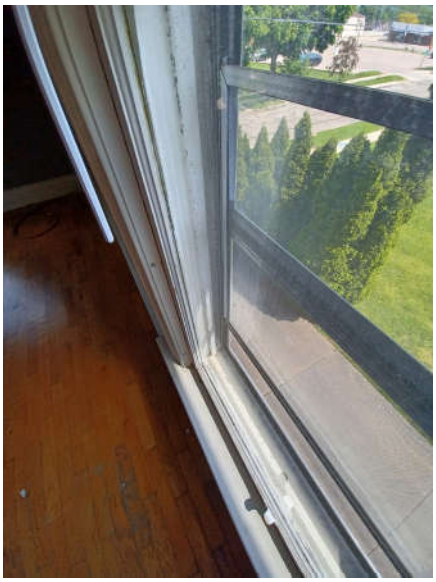
Hallway 8

Bedroom 9

Bedroom 10



Bedroom 10 Side A Window



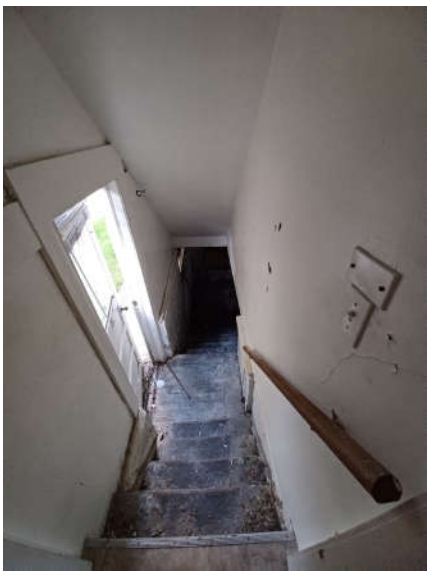
Bedroom 10 Side B Window

Kitchen 11

Kitchen 11 Side C Window

Bathroom 12

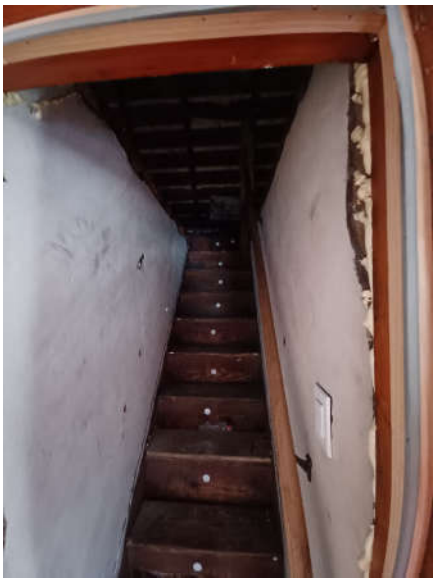
Bathroom 12 Side C



Stairs 13

Basement 14

Utility Room 15



Stairs 16

Attic 17

Bare Soil Side C

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

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

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

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/ft^2(micrograms per square feet) on floors
    - 40 µg/ft^2 on porches
    - 100 µg/ft^{2}on interior window sills
    - 100 µg/ft^{2}on 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 ($\mu g/cm^2$) 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 ($\mu g/ ft^2$).

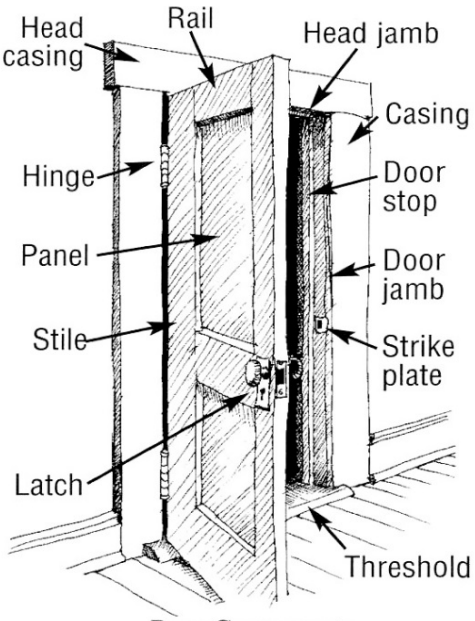
SOIL

Soil is collected using HUD best practices.

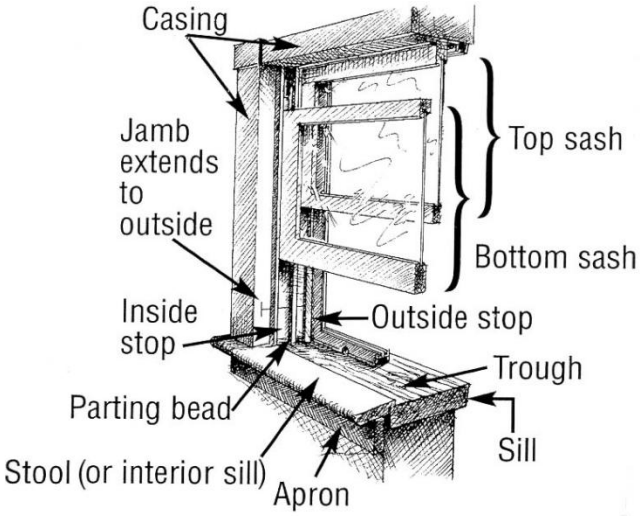
A soil sample comes from the upper ½ inch of soil. Garden soil is tested 4-6" (inches) down. All soil must come from soil on the property. Areas may include sandboxes, child play areas, and the roof drip line. A trace metals laboratory analyzes the soil for lead. Soil sample results are reported in parts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

HOUSING COMPONENT IDENTIFICATION

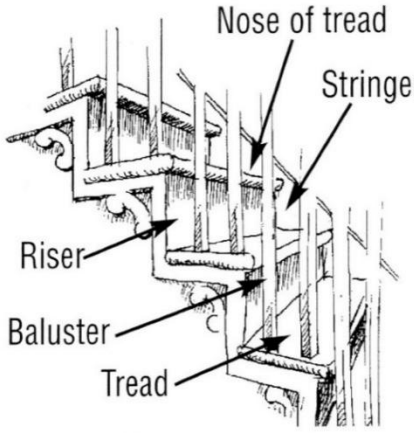
Please use the photos/diagrams below as a guide to help identify housing components noted in this report. Diagrams adopted from Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999.



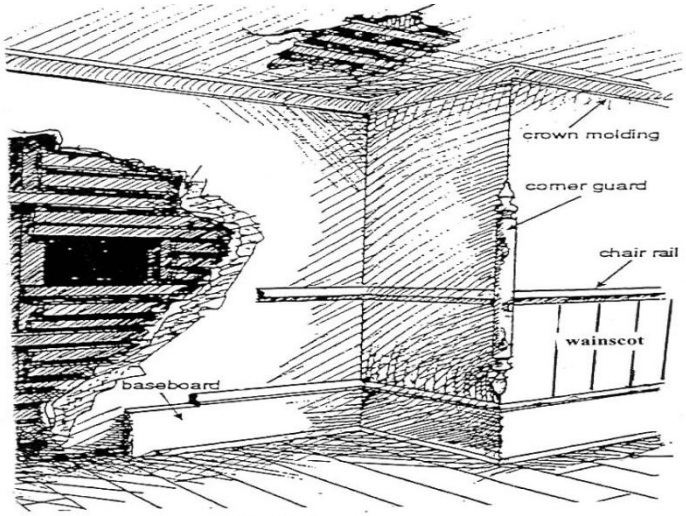
Door Components



Window Components



Stair Components



Wall Components

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/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
1	**1**	**Positive**	**Calibrate**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2	0.7	Negative	Calibrate	-	-	-	-	-	-	-	-	-	-
3	0.7	Negative	Calibrate	-	-	-	-	-	-	-	-	-	-
4	0.6	Negative	Door Casing	C	(All)	White	Deteriorated	Wood	Enclosed Porch	1	-	-	-
5	0.7	Negative	Door Stop	C	(All)	White	Deteriorated	Wood	Enclosed Porch	1	-	-	-
6	0	Negative	Door Jamb	C	(All)	White	Deteriorated	Wood	Enclosed Porch	1	-	-	-
7	0.1	Negative	Door	C	(All)	White	Deteriorated	Wood	Enclosed Porch	1	-	-	-
8	0.1	Negative	Door Threshold	C	(All)	White	Deteriorated	Wood	Enclosed Porch	1	-	-	-
9	0.7	Negative	Floor	Floor	-	Grey	Deteriorated	Wood	Enclosed Porch	1	-	-	-
10	0.2	Negative	Win. Casing	All	(All)	White	Deteriorated	Wood	Living Room	2	-	-	-
11	0.2	Negative	Win. Sill-Stool	All	(All)	White	Deteriorated	Wood	Living Room	2	-	-	-
12	0.2	Negative	Win. Stop Int.	All	(All)	White	Deteriorated	Wood	Living Room	2	-	-	-
13	0.2	Negative	Win. Apron	All	(All)	White	Deteriorated	Wood	Living Room	2	-	-	-
14	0.2	Negative	Win. Sash Int.	All	(All)	White	Deteriorated	Wood	Living Room	2	-	-	-
15	**5.7**	**Positive**	**Win. Sash Ext.**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Living Room**	**2**	**Weather**	**Yes**	**No**
16	**18.9**	**Positive**	**Win. Stop Ext.**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Living Room**	**2**	**Weather**	**Yes**	**No**
17	**13.1**	**Positive**	**Win. Jamb**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Living Room**	**2**	**Friction**	**Yes**	**No**
18	**12.2**	**Positive**	**Win. Part Bead**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Living Room**	**2**	**Friction**	**Yes**	**No**

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
19	**10.7**	**Positive**	**Win. Well-Trough**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Living Room**	**2**	**Weather**	**Yes**	**No**
20	0.1	Negative	Door Casing	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
21	0.1	Negative	Door Jamb	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
22	0	Negative	Clos. Door	C	-	Stain	Deteriorated	Wood	Living Room	2	-	-	-
23	0	Negative	Clos. Door Jamb	C	-	Stain	Deteriorated	Wood	Living Room	2	-	-	-
24	0.1	Negative	Clos. Door Stop	C	-	Stain	Deteriorated	Wood	Living Room	2	-	-	-
25	0.2	Negative	Clos. Door Casing	C	-	Stain	Deteriorated	Wood	Living Room	2	-	-	-
26	0	Negative	Clos. Baseboard	C	-	Stain	Deteriorated	Wood	Living Room	2	-	-	-
27	0.5	Negative	Shelf Bracket	C	-	White	Deteriorated	Wood	Living Room	2	-	-	-
28	**1.8**	**Positive**	**Clos. Shelf**	**C**	**-**	**White**	**Deteriorated**	**Wood**	**Living Room**	**2**	**Impact**	**Yes**	**No**
29	**2.1**	**Positive**	**Clos. Wall**	**C**	**-**	**White**	**Deteriorated**	**Drywall**	**Living Room**	**2**	**Impact**	**No**	**No**
30	0.1	Negative	Column	C	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
31	0	Negative	Beam	C	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
32	0	Negative	Ledge	C	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
33	0.4	Negative	Wall	A	-	Grey	INTACT	Drywall	Living Room	2	-	-	-
34	0.2	Negative	Wall	B	-	Grey	Deteriorated	Drywall	Living Room	2	-	-	-
35	0.3	Negative	Wall	C	-	Grey	Deteriorated	Drywall	Living Room	2	-	-	-
36	0.4	Negative	Wall	D	-	Grey	Deteriorated	Drywall	Living Room	2	-	-	-
37	0.2	Negative	Ceiling	Ceiling	-	White	Deteriorated	Drywall	Living Room	2	-	-	-
38	0	Negative	Crown Molding	Ceiling	-	White	INTACT	Wood	Living Room	2	-	-	-
39	0.1	Negative	Baseboard	All	(All)	Stain	INTACT	Wood	Living Room	2	-	-	-
40	0.2	Negative	Shoe Mold	All	(All)	White	Deteriorated	Wood	Living Room	2	-	-	-
41	0	Negative	Door Casing	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
42	0.1	Negative	Door Jamb	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
43	0.3	Negative	Win. Casing	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
44	0.1	Negative	Win. Sill-Stool	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
45	0.2	Negative	Win. Stop Int.	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
46	0.1	Negative	Win. Sash Int.	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
47	0.1	Negative	Win. Mullion	All	(All)	Stain	Deteriorated	Wood	Living Room	2	-	-	-
48	**5.4**	**Positive**	**Win. Sash Ext.**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Dining Room**	**3**	**Weather**	**Yes**	**No**
49	**17**	**Positive**	**Win. Stop Ext.**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Dining Room**	**3**	**Weather**	**Yes**	**No**
50	**12.3**	**Positive**	**Win. Jamb**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Dining Room**	**3**	**Friction**	**Yes**	**No**
51	**10.2**	**Positive**	**Win. Part Bead**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Dining Room**	**3**	**Friction**	**Yes**	**No**
52	**14.5**	**Positive**	**Win. Well-Trough**	**All**	**(All)**	**White**	**Deteriorated**	**Wood**	**Dining Room**	**3**	**Weather**	**Yes**	**No**
53	0.1	Negative	Cabinet Casing	All	(All)	Stain	Deteriorated	Wood	Dining Room	3	-	-	-
54	0.1	Negative	Cabinet Drawer	All	(All)	Stain	Deteriorated	Wood	Dining Room	3	-	-	-
55	0	Negative	Ledge	All	(All)	Stain	Deteriorated	Wood	Dining Room	3	-	-	-
56	0.1	Negative	Baseboard	All	(All)	Stain	Deteriorated	Wood	Dining Room	3	-	-	-
57	0.3	Negative	Wall	B	-	Grey	Deteriorated	Drywall	Dining Room	3	-	-	-
58	0.5	Negative	Wall	C	-	Grey	Deteriorated	Drywall	Dining Room	3	-	-	-
59	0.2	Negative	Wall	D	-	Grey	Deteriorated	Drywall	Dining Room	3	-	-	-
60	0.2	Negative	Floor	Floor	-	Stain	Deteriorated	Wood	Dining Room	3	-	-	-
61	0.2	Negative	Ceiling	Ceiling	-	White	Deteriorated	Drywall	Dining Room	3	-	-	-
62	0.1	Negative	Beam	Ceiling	-	White	Deteriorated	Wood	Dining Room	3	-	-	-
63	0.2	Negative	Shoe Mold	All	(All)	White	Deteriorated	Wood	Dining Room	3	-	-	-
64	0.2	Negative	Door Casing	All	(All)	White	Deteriorated	Wood	Kitchen	4	-	-	-
65	0	Negative	Door Stop	C	(All)	White	Deteriorated	Wood	Kitchen	4	-	-	-
66	0	Negative	Door Jamb	C	(All)	White	Deteriorated	Wood	Kitchen	4	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
67	0.1	Negative	Door Stop	B	(All)	Stain	Deteriorated	Wood	Kitchen	4	-	-	-
68	0	Negative	Door Jamb	B	(All)	Stain	Deteriorated	Wood	Kitchen	4	-	-	-
69	0.2	Negative	Win. Casing	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
70	0.1	Negative	Win. Sill-Stool	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
71	0.1	Negative	Win. Apron	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
72	0.7	Negative	Win. Sash Int.	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
73	0.2	Negative	Win. Stop Int.	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
74	0.1	Negative	Win. Jamb	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
75	0.1	Negative	Win. Well-Trough	D	1	White	Deteriorated	Wood	Kitchen	4	-	-	-
76	0.2	Negative	Win. Casing	D	2	White	Deteriorated	Wood	Kitchen	4	-	-	-
77	0.1	Negative	Win. Sill-Stool	D	2	White	Deteriorated	Wood	Kitchen	4	-	-	-
78	0.1	Negative	Win. Stop Int.	D	2	White	Deteriorated	Wood	Kitchen	4	-	-	-
79	0.1	Negative	Win. Apron	D	2	White	Deteriorated	Wood	Kitchen	4	-	-	-
80	0.3	Negative	Win. Sash Int.	D	2	White	Deteriorated	Wood	Kitchen	4	-	-	-
81	**15.9**	**Positive**	**Win. Stop Ext.**	**D**	**2**	**White**	**Deteriorated**	**Wood**	**Kitchen**	**4**	**Weather**	**Yes**	**No**
82	**11.9**	**Positive**	**Win. Sash Ext.**	**D**	**2**	**White**	**Deteriorated**	**Wood**	**Kitchen**	**4**	**Weather**	**Yes**	**No**
83	**13.8**	**Positive**	**Win. Jamb**	**D**	**2**	**White**	**Deteriorated**	**Wood**	**Kitchen**	**4**	**Friction**	**Yes**	**No**
84	**11.5**	**Positive**	**Win. Part Bead**	**D**	**2**	**White**	**Deteriorated**	**Wood**	**Kitchen**	**4**	**Friction**	**Yes**	**No**
85	**15.5**	**Positive**	**Win. Well-Trough**	**D**	**2**	**White**	**INTACT**	**Metal**	**Kitchen**	**4**	**-**	**-**	**-**
86	0.1	Negative	Clos. Door	A	-	Stain	INTACT	Wood	Kitchen	4	-	-	-
87	0.2	Negative	Clos. Door Jamb	A	-	White	INTACT	Wood	Kitchen	4	-	-	-
88	0.1	Negative	Clos. Door Stop	A	-	White	INTACT	Wood	Kitchen	4	-	-	-
89	0.1	Negative	Clos. Door Casing	A	-	White	INTACT	Wood	Kitchen	4	-	-	-
90	0.6	Negative	Shelf Bracket	A	-	White	INTACT	Wood	Kitchen	4	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
91	**1.1**	**Positive**	**Clos. Shelf**	**A**	**-**	**White**	**INTACT**	**Wood**	**Kitchen**	**4**	**-**	**-**	**-**
92	0.2	Negative	Clos. Baseboard	A	-	White	INTACT	Wood	Kitchen	4	-	-	-
93	0.3	Negative	Clos. Wall	A	-	White	INTACT	Drywall	Kitchen	4	-	-	-
94	0.3	Negative	Pipe	A	-	White	INTACT	Metal	Kitchen	4	-	-	-
95	0	Negative	Baseboard	B	(All)	White	INTACT	Wood	Kitchen	4	-	-	-
96	0.2	Negative	Wall	A	-	Grey	Deteriorated	Drywall	Kitchen	4	-	-	-
97	0.1	Negative	Wall	B	-	Grey	Deteriorated	Drywall	Kitchen	4	-	-	-
98	0.3	Negative	Wall	C	-	Grey	Deteriorated	Drywall	Kitchen	4	-	-	-
99	0.1	Negative	Wall	D	-	Grey	Deteriorated	Drywall	Kitchen	4	-	-	-
100	0	Negative	Ceiling	Ceiling	-	White	Deteriorated	Drywall	Kitchen	4	-	-	-
101	0.2	Negative	Door	A	-	White	INTACT	Wood	Bathroom	5	-	-	-
102	0	Negative	Door Casing	A	-	White	INTACT	Wood	Bathroom	5	-	-	-
103	0	Negative	Win. Casing	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
104	0	Negative	Win. Sill-Stool	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
105	0	Negative	Win. Sash Int.	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
106	0	Negative	Win. Stop Int.	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
107	0.9	Negative	Win. Stop Ext.	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
108	**1**	**Positive**	**Win. Sash Ext.**	**D**	**-**	**White**	**INTACT**	**Wood**	**Bathroom**	**5**	**-**	**-**	**-**
109	0	Negative	Win. Jamb	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
110	0.4	Negative	Win. Part Bead	D	-	White	INTACT	Wood	Bathroom	5	-	-	-
111	**1**	**Positive**	**Win. Well-Trough**	**D**	**-**	**White**	**INTACT**	**Metal**	**Bathroom**	**5**	**-**	**-**	**-**
112	0.2	Negative	Wall	A	-	White	Deteriorated	Drywall	Bathroom	5	-	-	-
113	0	Negative	Wall	B	-	White	Deteriorated	Drywall	Bathroom	5	-	-	-
114	0.2	Negative	Wall	C	-	White	Deteriorated	Drywall	Bathroom	5	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
115	0	Negative	Wall	D	-	White	Deteriorated	Drywall	Bathroom	5	-	-	-
116	0	Negative	Ceiling	Ceiling	-	White	Deteriorated	Drywall	Bathroom	5	-	-	-
117	0	Negative	Door Casing	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
118	0.1	Negative	Door Stop	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
119	0	Negative	Door Jamb	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
120	0.1	Negative	Clos. Door	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
121	0.1	Negative	Clos. Door Jamb	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
122	0	Negative	Clos. Door Stop	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
123	0.1	Negative	Clos. Door Casing	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
124	0.1	Negative	Clos. Baseboard	D	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
125	0	Negative	Shelf Bracket	D	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
126	0.1	Negative	Clos. Shelf	D	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
127	0.1	Negative	Clos. Wall	D	-	White	Deteriorated	Drywall	Bedroom	6	-	-	-
128	0	Negative	Win. Casing	C	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
129	0.1	Negative	Win. Sill-Stool	C	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
130	0.2	Negative	Win. Apron	C	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
131	0	Negative	Win. Stop Int.	C	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
132	0.1	Negative	Win. Sash Int.	C	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
133	0.1	Negative	Win. Sash Ext.	C	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
134	0	Negative	Win. Well-Trough	C	-	White	Deteriorated	Wood	Bedroom	6	-	-	-
135	0	Negative	Win. Jamb	C	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
136	0.1	Negative	Baseboard	A	(All)	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
137	0	Negative	Floor	Floor	-	Stain	Deteriorated	Wood	Bedroom	6	-	-	-
138	0.1	Negative	Wall Register	A	-	White	Deteriorated	Metal	Bedroom	6	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
139	0	Negative	Wall	A	-	White	Deteriorated	Drywall	Bedroom	6	-	-	-
140	0.1	Negative	Wall	B	-	White	Deteriorated	Drywall	Bedroom	6	-	-	-
141	0.1	Negative	Wall	C	-	White	Deteriorated	Drywall	Bedroom	6	-	-	-
142	0	Negative	Wall	D	-	White	Deteriorated	Drywall	Bedroom	6	-	-	-
143	0.2	Negative	Ceiling	Ceiling	-	White	Deteriorated	Drywall	Bedroom	6	-	-	-
144	**5**	**Positive**	**Door Threshold**	**A**	**-**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
145	**3.8**	**Positive**	**Win. Casing**	**B**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**No**	**No**
146	**22.6**	**Positive**	**Win. Jamb**	**B**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
147	**21.4**	**Positive**	**Win. Stop Ext.**	**B**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
148	**21.3**	**Positive**	**Win. Sash Ext.**	**B**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
149	**19.5**	**Positive**	**Win. Casing**	**C**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**No**	**No**
150	**20.8**	**Positive**	**Win. Casing**	**D**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**No**	**No**
151	**22.6**	**Positive**	**Win. Jamb**	**D**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
152	**21.4**	**Positive**	**Win. Stop Ext.**	**D**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
153	**21.3**	**Positive**	**Win. Sash Ext.**	**D**	**(All)**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Weather**	**Yes**	**No**
154	**18.4**	**Positive**	**Door**	**D**	**-**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Friction**	**Yes**	**No**
155	**13**	**Positive**	**Door Stop**	**D**	**-**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Impact**	**Yes**	**No**
156	**11.7**	**Positive**	**Door Jamb**	**D**	**-**	**White**	**Deteriorated**	**Wood**	**Exterior House**	**18**	**Friction**	**Yes**	**No**
157	0	Negative	Door Casing	All	(All)	Stain	INTACT	Wood	Hallway	8	-	-	-
158	0.1	Negative	Door Stop	All	(All)	Stain	INTACT	Wood	Hallway	8	-	-	-
159	0	Negative	Door Jamb	All	(All)	Stain	INTACT	Wood	Hallway	8	-	-	-
160	0	Negative	Ceiling	Ceiling	-	White	INTACT	Plaster	Hallway	8	-	-	-
161	0	Negative	Wall	A	-	Grey	INTACT	Plaster	Hallway	8	-	-	-
162	0	Negative	Wall	C	-	Grey	INTACT	Plaster	Hallway	8	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
163	0	Negative	Ceiling	Ceiling	-	White	INTACT	Plaster	Bedroom	9	-	-	-
164	0	Negative	Wall	A	-	Grey	INTACT	Plaster	Bedroom	9	-	-	-
165	0.4	Negative	Wall	B	-	Grey	INTACT	Plaster	Bedroom	9	-	-	-
166	0	Negative	Wall	C	-	Grey	INTACT	Plaster	Bedroom	9	-	-	-
167	0.5	Negative	Wall	D	-	Grey	INTACT	Plaster	Bedroom	9	-	-	-
168	0	Negative	Baseboard	D	-	White	INTACT	Wood	Bedroom	9	-	-	-
169	0.1	Negative	Cabinet	D	-	White	INTACT	Wood	Bedroom	9	-	-	-
170	0	Negative	Door Casing	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
171	0	Negative	Door Jamb	C	-	White	INTACT	Wood	Bedroom	9	-	-	-
172	0	Negative	Win. Casing	A	(All)	White	INTACT	Wood	Bedroom	9	-	-	-
173	0.3	Negative	Win. Sill-Stool	A	(All)	White	Deteriorated	Wood	Bedroom	9	-	-	-
174	**13.7**	**Positive**	**Win. Jamb**	**A**	**(All)**	**White**	**Deteriorated**	**Wood**	**Bedroom**	**9**	**Friction**	**Yes**	**No**
175	0	Negative	Door Jamb	C	-	White	INTACT	Wood	Bedroom	10	-	-	-
176	0.2	Negative	Ceiling	Ceiling	-	White	Deteriorated	Plaster	Bedroom	10	-	-	-
177	0.7	Negative	Wall	A	-	Grey	Deteriorated	Plaster	Bedroom	10	-	-	-
178	0.4	Negative	Wall	B	-	Grey	Deteriorated	Plaster	Bedroom	10	-	-	-
179	0	Negative	Wall	C	-	Grey	Deteriorated	Plaster	Bedroom	10	-	-	-
180	0.3	Negative	Wall	D	-	Grey	Deteriorated	Plaster	Bedroom	10	-	-	-
181	0.1	Negative	Baseboard	D	(All)	White	Deteriorated	Wood	Bedroom	10	-	-	-
182	0.1	Negative	Wall Register	B	(All)	White	Deteriorated	Metal	Bedroom	10	-	-	-
183	0.1	Negative	Clos. Door Casing	C	-	White	Deteriorated	Wood	Bedroom	10	-	-	-
184	0.7	Negative	Clos. Wall	C	-	White	Deteriorated	Plaster	Bedroom	10	-	-	-
185	**1.3**	**Positive**	**Win. Casing**	**B**	**(All)**	**White**	**Deteriorated**	**Wood**	**Bedroom**	**10**	**Impact**	**Yes**	**No**
186	0	Negative	Win. Sill-Stool	B	(All)	White	Deteriorated	Wood	Bedroom	10	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
187	0	Negative	Win. Sash Int.	B	(All)	White	Deteriorated	Wood	Bedroom	10	-	-	-
188	0.3	Negative	Ceiling	A	-	White	Deteriorated	Plaster	Kitchen	11	-	-	-
189	0.6	Negative	Wall	A	-	White	Deteriorated	Plaster	Kitchen	11	-	-	-
190	0	Negative	Wall	B	-	White	Deteriorated	Plaster	Kitchen	11	-	-	-
191	0.3	Negative	Wall	C	-	White	Deteriorated	Plaster	Kitchen	11	-	-	-
192	0.1	Negative	Wall	D	-	White	Deteriorated	Plaster	Kitchen	11	-	-	-
193	0.1	Negative	Baseboard	D	(All)	White	Deteriorated	Wood	Kitchen	11	-	-	-
194	0	Negative	Door Casing	A	-	White	INTACT	Wood	Kitchen	11	-	-	-
195	0	Negative	Door Jamb	A	-	White	INTACT	Wood	Kitchen	11	-	-	-
196	0	Negative	Win. Casing	C	(All)	White	INTACT	Wood	Kitchen	11	-	-	-
197	0	Negative	Win. Sill-Stool	C	(All)	White	INTACT	Wood	Kitchen	11	-	-	-
198	0	Negative	Win. Sash Int.	C	(All)	White	INTACT	Wood	Kitchen	11	-	-	-
199	0.1	Negative	Ceiling	A	-	White	INTACT	Plaster	Bathroom	12	-	-	-
200	0.6	Negative	Wall	A	-	White	INTACT	Plaster	Bathroom	12	-	-	-
201	0	Negative	Wall	B	-	White	INTACT	Plaster	Bathroom	12	-	-	-
202	0	Negative	Wall	C	-	White	INTACT	Plaster	Bathroom	12	-	-	-
203	0.5	Negative	Wall	D	-	White	INTACT	Plaster	Bathroom	12	-	-	-
204	0	Negative	Door Casing	A	-	White	INTACT	Wood	Bathroom	12	-	-	-
205	0	Negative	Door Jamb	A	-	White	INTACT	Wood	Bathroom	12	-	-	-
206	0	Negative	Win. Casing	C	-	White	INTACT	Wood	Bathroom	12	-	-	-
207	0.1	Negative	Win. Casing	C	(All)	White	INTACT	Wood	Bathroom	12	-	-	-
208	0.2	Negative	Win. Sill-Stool	C	(All)	White	INTACT	Wood	Bathroom	12	-	-	-
209	0.1	Negative	Win. Sash Int.	C	(All)	White	INTACT	Wood	Bathroom	12	-	-	-
210	0.1	Negative	Ceiling	Ceiling	-	White	INTACT	Plaster	Stairwell	7	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
211	0.5	Negative	Wall	A	-	Grey	INTACT	Plaster	Stairwell	7	-	-	-
212	0	Negative	Wall	B	-	Grey	INTACT	Plaster	Stairwell	7	-	-	-
213	0	Negative	Wall	C	-	Grey	INTACT	Plaster	Stairwell	7	-	-	-
214	0.2	Negative	Wall	D	-	Grey	INTACT	Plaster	Stairwell	7	-	-	-
215	0.3	Negative	Win. Casing	All	(All)	Stain	INTACT	Wood	Stairwell	7	-	-	-
216	0.1	Negative	Win. Sill-Stool	All	(All)	Stain	INTACT	Wood	Stairwell	7	-	-	-
217	0.2	Negative	Win. Stop Int.	All	(All)	Stain	INTACT	Wood	Stairwell	7	-	-	-
218	0.1	Negative	Win. Sash Int.	All	(All)	Stain	INTACT	Wood	Stairwell	7	-	-	-
219	0.1	Negative	Win. Apron	All	(All)	Stain	INTACT	Wood	Stairwell	7	-	-	-
220	**19.5**	**Positive**	**Win. Jamb**	**D**	**1**	**White**	**Deteriorated**	**Wood**	**Stairwell**	**7**	**Friction**	**Yes**	**No**
221	**18.7**	**Positive**	**Win. Stop Ext.**	**D**	**1**	**White**	**Deteriorated**	**Wood**	**Stairwell**	**7**	**Weather**	**Yes**	**No**
222	**16.5**	**Positive**	**Win. Sash Ext.**	**D**	**1**	**White**	**Deteriorated**	**Wood**	**Stairwell**	**7**	**Weather**	**Yes**	**No**
223	0.3	Negative	Ceiling	Ceiling	-	White	Deteriorated	Plaster	Basement Stair	13	-	-	-
224	0.4	Negative	Wall	B	-	White	Deteriorated	Plaster	Basement Stair	13	-	-	-
225	0.1	Negative	Wall	C	-	White	Deteriorated	Plaster	Basement Stair	13	-	-	-
226	0.4	Negative	Wall	D	-	White	Deteriorated	Plaster	Basement Stair	13	-	-	-
227	0.2	Negative	Door Casing	C	-	White	Deteriorated	Wood	Basement Stair	13	-	-	-
228	0.1	Negative	Door Jamb	C	-	White	Deteriorated	Wood	Basement Stair	13	-	-	-
229	0	Negative	Door Stop	C	-	White	Deteriorated	Wood	Basement Stair	13	-	-	-
230	0	Negative	Stair Riser	C	-	Grey	Deteriorated	Wood	Basement Stair	13	-	-	-
231	0.1	Negative	Stair Stringer	C	-	Grey	Deteriorated	Wood	Basement Stair	13	-	-	-
232	0	Negative	Stair Tread	C	-	Grey	Deteriorated	Wood	Basement Stair	13	-	-	-
233	**13.8**	**Positive**	**Door Casing**	**D**	**-**	**White**	**Deteriorated**	**Wood**	**Basement Stair**	**13**	**Impact**	**Yes**	**No**
234	0	Negative	Wall	A	-	White	Deteriorated	Concrete	Basement	14	-	-	-

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
235	0	Negative	Wall	B	-	White	Deteriorated	Concrete	Basement	14	-	-	-
236	0	Negative	Win. Sash Int.	B	(All)	White	Deteriorated	Wood	Basement	14	-	-	-
237	0	Negative	Wall	D	-	White	Deteriorated	Concrete	Basement	14	-	-	-
238	0	Negative	Wall	A	-	White	Deteriorated	Concrete	Utility Room	15	-	-	-
239	0.2	Negative	Wall	B	-	White	Deteriorated	Concrete	Utility Room	15	-	-	-
240	0	Negative	Wall	C	-	White	Deteriorated	Concrete	Utility Room	15	-	-	-
241	0	Negative	Wall	D	-	White	Deteriorated	Concrete	Utility Room	15	-	-	-
242	0	Negative	Win. Sash Int.	B	(All)	White	Deteriorated	Wood	Utility Room	15	-	-	-
243	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
244	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
245	1	Positive	Calibrate	-	-	-	-	-	-	-	-	-	-
A1	ASSUMED	Positive	Win. Sash Ext.	A	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A2	ASSUMED	Positive	Win. Stop Ext.	A	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A3	ASSUMED	Positive	Win. Jamb	A	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A4	ASSUMED	Positive	Win. Part Bead	A	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A5	ASSUMED	Positive	Win. Well-Trough	A	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A6	ASSUMED	Positive	Win. Sash Ext.	B	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A7	ASSUMED	Positive	Win. Stop Ext.	B	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A8	ASSUMED	Positive	Win. Jamb	B	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A9	ASSUMED	Positive	Win. Part Bead	B	1	White	Deteriorated	Wood	Bedroom	10	Friction	Yes	No
A10	ASSUMED	Positive	Win. Well-Trough	B	1	White	Deteriorated	Wood	Bedroom	10	Weather	Yes	No
A11	ASSUMED	Positive	Win. Sash Ext.	C	1	White	Deteriorated	Wood	Kitchen	11	Weather	Yes	No
A12	ASSUMED	Positive	Win. Stop Ext.	C	1	White	Deteriorated	Wood	Kitchen	11	Weather	Yes	No
A13	ASSUMED	Positive	Win. Jamb	C	1	White	Deteriorated	Wood	Kitchen	11	Friction	Yes	No

READING #	MG/CM²	RESULT	COMPONENTS	SIDE	SIDE #	COLOR	CONDITION	SUBSTRATE	ROOM TYPE	ROOM #	COND CAUSE	FRIC- IMP	TEETH
A14	ASSUMED	Positive	Win. Part Bead	C	1	White	Deteriorated	Wood	Kitchen	11	Friction	Yes	No
A15	ASSUMED	Positive	Win. Well-Trough	C	1	White	Deteriorated	Wood	Kitchen	11	Weather	Yes	No
A16	ASSUMED	Positive	Win. Sash Ext.	C	1	White	Deteriorated	Wood	Bathroom	12	Weather	Yes	No
A17	ASSUMED	Positive	Win. Stop Ext.	C	1	White	Deteriorated	Wood	Bathroom	12	Weather	Yes	No
A18	ASSUMED	Positive	Win. Jamb	C	1	White	Deteriorated	Wood	Bathroom	12	Friction	Yes	No
A19	ASSUMED	Positive	Win. Part Bead	C	1	White	Deteriorated	Wood	Bathroom	12	Friction	Yes	No
A20	ASSUMED	Positive	Win. Well-Trough	C	1	White	Deteriorated	Wood	Bathroom	12	Weather	Yes	No
A21	ASSUMED	Positive	Win. Sash Ext.	D	2	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
A22	ASSUMED	Positive	Win. Stop Ext.	D	2	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
A23	ASSUMED	Positive	Win. Jamb	D	2	White	Deteriorated	Wood	Stairwell	7	Friction	Yes	No
A24	ASSUMED	Positive	Win. Part Bead	D	2	White	Deteriorated	Wood	Stairwell	7	Friction	Yes	No
A25	ASSUMED	Positive	Win. Well-Trough	D	2	White	Deteriorated	Wood	Stairwell	7	Weather	Yes	No
A26	ASSUMED	Positive	Win. Sash Ext.	A	1	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A27	ASSUMED	Positive	Win. Stop Ext.	A	1	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A28	ASSUMED	Positive	Win. Jamb	A	1	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A29	ASSUMED	Positive	Win. Part Bead	A	1	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A30	ASSUMED	Positive	Win. Well-Trough	A	1	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A31	ASSUMED	Positive	Win. Sash Ext.	A	2	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A32	ASSUMED	Positive	Win. Stop Ext.	A	2	White	Deteriorated	Wood	Attic	17	Weather	Yes	No
A33	ASSUMED	Positive	Win. Jamb	A	2	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A34	ASSUMED	Positive	Win. Part Bead	A	2	White	Deteriorated	Wood	Attic	17	Friction	Yes	No
A35	ASSUMED	Positive	Win. Well-Trough	A	2	White	Deteriorated	Wood	Attic	17	Weather	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: ***^{57}Co, 5 mCi (nominal – new source)***

FIELD OPERATION GUIDANCE

Action Level Setting:
0.5 mg/cm^2

OPERATING PARAMETERS:
Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive) at Action Level setting = 1.0 mg/cm^2

SUBSTRATE CORRECTION:
Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results not corrected for substrate bias on any substrate	Brick	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/cm^2*** using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film; for NIST SRM 2579a, use the 1.04 mg/cm^2 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/cm^2, ***negative*** if they are ***less than or equal*** *to* 0.4 mg/cm^2 and ***inconclusive*** if they are ***equal*** to 0.5 mg/ cm^2.

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/cm^2, 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.

ACCURATE ANALYTICAL TESTING LLC

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

Client Project : 269256

Project Location : 123 Ferguson, Lansing, MI 48912

AAT Project : 1030184
Sampling Date : 05/13/2024
Date Received : 05/17/2024
Date Analyzed : 05/21/2024
Date Reported : 05/21/2024

Lab Sample ID	Client Code	Sample Description	Length (inch)	Width (inch)	Area (Sq ft)	Results Lead µg/ft2 *
9423248	FB1	N/A Field Blank	N/A	N/A	N/A	N/D
9423249	DW01	HF Living Room 2 Floor	12	12	1.00	31.2
9423250	DW02	S Living Room 2 Sill B1	53	3.5	1.29	1130
9423251	DW03	HF Kitchen 4 Floor	12	12	1.00	219
9423252	DW04	T Kitchen 4 Trough D2	38.75	1.25	0.34	5590
9423253	DW05	HF Bedroom 6 Floor	12	12	1.00	29.3
9423254	DW06	T Bedroom 6 Trough C1	40.125	1.75	0.49	88.3
9423255	DW07	HF Bedroom 9 Floor	12	12	1.00	11.5
9423256	DW08	S Bedroom 9 Sill A1	35	3.25	0.79	89.9
9423257	DW09	T Bedroom 9 Trough A1	36	1.5	0.38	4900
9423258	DW10	HF Bedroom 10 Floor	12	12	1.00	12.5
9423259	DW11	S Bedroom 10 Sill B1	34.75	3.25	0.78	990
9423260	DW12	HF Bathroom 12 Floor	12	12	1.00	30.3
9423261	DW13	S Bathroom 12 Sill C1	34.75	3.25	0.78	267
9423262	DW14	Porch A A Side	12	12	1.00	7.13

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

Lab Sample ID	Client Code	Sample Description	Length (inch)	Width (inch)	Area (Sq ft)	Results Lead µg/ft2 *

Analyst Signature

Nathan Ditty

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.

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

Date Printed: 05/21/2024

AAT Project: 1030184

ACCURATE ANALYTICAL TESTING LLC

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

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

Client : 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 : 269256

Project Location : 123 Ferguson, Lansing, MI 48912

AAT Project : 1030184
Sampling Date : 05/13/2024
Date Received : 05/17/2024
Date Analyzed : 05/21/2024
Date Reported : 05/21/2024

Lab Sample ID	Client Code	Sample Description	Results Lead µg/g (PPM)	Calculated RL µg/g *
9423263	SS-1	dripline A A Side	337	9.92
9423264	SS-2	bare soil C C Side	282	10.5

Analyst Signature

Nathan Ditty

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 Perimters 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

ACCURATE ANALYTICAL TESTING LLC

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

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

Project Location : 123 Ferguson, Lansing, MI 48912

AAT Project : 1030184
Client Project : 269256
Date Reported : 05/21/2024

Sample	Client Code	Analysis Requested	Completed	Analyst
9423248	FB1	Dust Wipe	05/21/2024	Nathan Ditty
9423249	DW01	Dust Wipe	05/21/2024	Nathan Ditty
9423250	DW02	Dust Wipe	05/21/2024	Nathan Ditty
9423251	DW03	Dust Wipe	05/21/2024	Nathan Ditty
9423252	DW04	Dust Wipe	05/21/2024	Nathan Ditty
9423253	DW05	Dust Wipe	05/21/2024	Nathan Ditty
9423254	DW06	Dust Wipe	05/21/2024	Nathan Ditty
9423255	DW07	Dust Wipe	05/21/2024	Nathan Ditty
9423256	DW08	Dust Wipe	05/21/2024	Nathan Ditty
9423257	DW09	Dust Wipe	05/21/2024	Nathan Ditty
9423258	DW10	Dust Wipe	05/21/2024	Nathan Ditty
9423259	DW11	Dust Wipe	05/21/2024	Nathan Ditty
9423260	DW12	Dust Wipe	05/21/2024	Nathan Ditty
9423261	DW13	Dust Wipe	05/21/2024	Nathan Ditty
9423262	DW14	Dust Wipe	05/21/2024	Nathan Ditty
9423263	SS-1	Lead Soil	05/21/2024	Tom Hamlin
9423264	SS-2	Lead Soil	05/21/2024	Tom Hamlin

Reviewed By Elyse Bidle
Quality Assurance Coordinator

Electronic Chain of Custody

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

Submitting Company :

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

AAT Project : 1030184

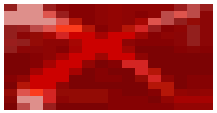
Turn Around: 48 Hours

Project Location: 123 Ferguson, Lansing, MI 48912

Client Job: 269256

Lab Sample	Sample Description	Barcode	Client Code	Sample Type	Dimension	Field Blank	Other Analysis
9423248	N/A Field Blank	1668465	FB1	Dust Wipe	0 x 0	Yes	None
9423249	HF Living Room 2 Floor	1668466	DW01	Dust Wipe	12 x 12	No	None
9423250	S Living Room 2 Sill B1	1668467	DW02	Dust Wipe	53 x 3.5	No	None
9423251	HF Kitchen 4 Floor	1668468	DW03	Dust Wipe	12 x 12	No	None
9423252	T Kitchen 4 Trough D2	1668469	DW04	Dust Wipe	38.75 x 1.25	No	None
9423253	HF Bedroom 6 Floor	1668470	DW05	Dust Wipe	12 x 12	No	None
9423254	T Bedroom 6 Trough C1	1668471	DW06	Dust Wipe	40.125 x 1.75	No	None
9423255	HF Bedroom 9 Floor	1668472	DW07	Dust Wipe	12 x 12	No	None
9423256	S Bedroom 9 Sill A1	1668473	DW08	Dust Wipe	35 x 3.25	No	None
9423257	T Bedroom 9 Trough A1	1668474	DW09	Dust Wipe	36 x 1.5	No	None
9423258	HF Bedroom 10 Floor	1668475	DW10	Dust Wipe	12 x 12	No	None

Lab Sample	Sample Description	Barcode	Client Code	Sample Type	Dimension	Field Blank	Other Analysis
9423259	S Bedroom 10 Sill B1	1668476	DW11	Dust Wipe	34.75 x 3.25	No	None
9423260	HF Bathroom 12 Floor	1668477	DW12	Dust Wipe	12 x 12	No	None
9423261	S Bathroom 12 Sill C1	1668478	DW13	Dust Wipe	34.75 x 3.25	No	None
9423262	Porch A A Side	1668479	DW14	Dust Wipe	12 x 12	No	None
9423263	dripline A A Side	1668480	SS-1	Lead Soil	0 x 0	No	None
9423264	bare soil C C Side	1668481	SS-2	Lead Soil	0 x 0	No	None



Seal Intact: **Yes**

Preservative (if required): **Yes**

Sampled By: David Franklin

Containers Labled : **Yes**

Received By: Lexxus Staffeld

Received Date: 05/17/2024 08:00

Analyst: Tom Hamlin

Relinquished By: Elyse Bidle

Relinquished Date: 05/21/2024 14:19