



FROEHLING & ROBERTSON, INC.

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September 24, 2012

Physical Plant
Virginia Military Institute
Lexington, Virginia 24450
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Attention: Major Richard Fletcher. (FletcherRA@vmi.edu)

Re: Limited Lead Testing Services
303, 305, 307, and 309 Letcher Avenue
Lexington, Virginia

Major Fletcher:

Froehling & Robertson, Inc. (F&R) personnel sampled select painted building components on the exterior of four buildings during a survey on September 19, 2012. The project site is the four former residences being used as offices and apartment spaces addressed at 303, 305, 307, and 309 Letcher Avenue on the Virginia Military Institute campus in Lexington, Virginia. The results of our findings are presented below.

LEAD-BASED PAINT (LBP) SURVEY METHODOLOGY

An F&R Industrial Hygienist performed the testing of painted surfaces for lead. The testing was conducted by using a Niton XLp-300 X-Ray Fluorescence (XRF) Lead Paint Analyzer. The XRF contains a small radioisotopic source and operates on the principle of x-ray fluorescence, whereby lead atoms in paint are stimulated to emit characteristic x-rays, which are then detected by the instrument. The XRF can measure surface or non-surface concentrations of lead with 95% accuracy at the HUD action level of 1.0 mg/cm². Levels of lead are reported in units of milligrams per square centimeter (mg/cm²). The XRF is able to accurately detect as little as 0.1 mg/cm² of lead. The XRF classifies painted surfaces as “positive” or “negative” for lead content based on the HUD action level (1.0 mg/cm²) and the performance characteristics of the XRF.

Positive: Lead is present at or above the HUD standard of 1.0 mg/cm² on one or more of the components.

Negative: Lead is not present at or above the HUD standard of 1.0 mg/cm² on any of the components.



The survey was conducted in general accordance with the methodology recommended by the U.S. Department of Housing and Urban Development (HUD). However, this was not a comprehensive surface-by-surface investigation for lead based paint, but rather a screening survey of major painted exterior building surfaces where the presence of suspect lead based paint was observed.

Based on the nature of this survey, when one component tests positive for the presence of lead paint all similar painted components must be assumed to be positive, unless additional testing is performed. A total two hundred and six (206) XRF readings were taken on exterior painted surfaces of the four buildings included in the survey. One hundred and twenty three (123) of the readings were considered positive based on the HUD action level of 1.0 mg/cm².

FINDINGS AND CONCLUSIONS

The readings that were positive for lead based paint are presented below in Tables 1-4. All XRF readings are taken at the site are listed in the XRF Data Tables included as an attachment to this report.

Table 1: - 303 Letcher Avenue Lead Based Paint Positive Sampling Results: September 19, 2012

Reading #	Floor	Sample Location	Component	Side	Substrate	Color
5	FIRST	PORCH-FRONT	SIDING	A	WOOD	WHITE
6	FIRST	PORCH-FRONT	COLUMN	A	WOOD	WHITE
7	FIRST	PORCH-FRONT	DOOR CASING	A	WOOD	WHITE
8	FIRST	PORCH-FRONT	DOOR	A	WOOD	WHITE
9	FIRST	PORCH-FRONT	WINDOW-CASING	A	WOOD	WHITE
10	FIRST	PORCH-FRONT	WINDOW-SILL	A	WOOD	WHITE
11	FIRST	PORCH-FRONT	DOOR CASING	A	WOOD	WHITE
12	FIRST	PORCH-FRONT	DOOR	A	WOOD	WHITE
14	FIRST	PORCH-FRONT	HANDRAIL-TOPRAIL	A	WOOD	WHITE
15	FIRST	PORCH-FRONT	HANDRAIL-BALUSTERS	A	WOOD	WHITE
19	FIRST	PORCH-FRONT	THRESHOLD	A	WOOD	BLUE GRAY
25	FIRST	PORCH-FRONT	WINDOW-SILL	A	WOOD	WHITE
26	FIRST	PORCH-FRONT	WINDOW-CASING	A	WOOD	WHITE
27	FIRST	PORCH-FRONT	WINDOW-SASH	A	WOOD	WHITE
28	FIRST	PORCH-FRONT	CEILING	A	WOOD	WHITE
29	FIRST	PORCH-FRONT	BEAM	A	WOOD	WHITE
30	FIRST	PORCH-FRONT	ROOF	A	METAL	MULTICOLORED
31	FIRST	PORCH-FRONT	WINDOW-SASH	A	WOOD	WHITE
32	FIRST	EXTERIOR	LATTICE	B	WOOD	BLUE GRAY
34	FIRST	EXTERIOR	DOWNSPOUT	B	METAL	WHITE



Reading #	Floor	Sample Location	Component	Side	Substrate	Color
41	FIRST	PORCH-FRONT	WALL	B	WOOD	WHITE
42	FIRST	PORCH-FRONT	WINDOW-CASING	B	WOOD	WHITE
47	SECOND	EXTERIOR	DOOR	C	WOOD	WHITE
48	SECOND	EXTERIOR	DOOR	C	WOOD	WHITE
49	SECOND	EXTERIOR	DOOR CASING	C	WOOD	WHITE
50	SECOND	EXTERIOR	WALL	C	WOOD	WHITE
51	SECOND	EXTERIOR	CEILING	C	WOOD	WHITE
52	SECOND	EXTERIOR	HANDRAIL-TOPRAIL	C	WOOD	WHITE
54	SECOND	EXTERIOR	FLOOR	C	WOOD	BLUE GRAY
57	BASEMENT	PORCH-BACK	COLUMN	C	WOOD	WHITE
60	BASEMENT	PORCH-BACK	WALL	C	WOOD	WHITE
61	BASEMENT	PORCH-BACK	DOOR CASING	C	WOOD	WHITE
64	BASEMENT	PORCH-BACK	LATTICE	C	WOOD	WHITE
68	FIRST	PORCH-BACK	WALL	C	WOOD	WHITE
69	FIRST	PORCH-BACK	WINDOW-SASH	C	WOOD	WHITE
70	FIRST	PORCH-BACK	WINDOW-SILL	C	WOOD	WHITE
72	FIRST	PORCH-BACK	HANDRAIL-TOPRAIL	C	WOOD	WHITE
73	FIRST	PORCH-BACK	HANDRAIL-BALUSTERS	C	WOOD	WHITE

The following exterior building components are assumed to be coated with LBP at **303 Letcher Avenue**.

- The white painted exterior siding.
- The white painted front porch components.
- The blue-gray painted thresholds.
- The multicolored paint in poor condition on the roof over the porch.
- The blue-gray lattice around the bottom of the front porch.
- White painted downspouts.
- All window components.
- Exterior doors and casings.
- The white and blue-gray painted back porch components (including lattice).

Table 2: - 305 Letcher Avenue Lead Based Paint Positive Sampling Results: September 19, 2012

Reading #	Floor	Sample Location	Component	Side	Substrate	Color
75	FIRST	PORCH-FRONT	HANDRAIL-TOPRAIL	A	WOOD	WHITE
76	FIRST	PORCH-FRONT	HANDRAIL-BALUSTERS	A	WOOD	WHITE
77	FIRST	PORCH-FRONT	COLUMN	A	WOOD	WHITE
78	FIRST	PORCH-FRONT	WINDOW-CASING	A	WOOD	WHITE
79	FIRST	PORCH-FRONT	WINDOW-SILL	A	WOOD	WHITE



Reading #	Floor	Sample Location	Component	Side	Substrate	Color
80	FIRST	PORCH-FRONT	WINDOW-SASH	A	WOOD	WHITE
81	FIRST	PORCH-FRONT	SHUTTER	A	WOOD	BLUE GRAY
82	FIRST	PORCH-FRONT	CROWN MOLDING	A	WOOD	WHITE
83	FIRST	PORCH-FRONT	CEILING	A	WOOD	WHITE
84	FIRST	PORCH-FRONT	BEAM	A	WOOD	WHITE
88	FIRST	PORCH-FRONT	DOOR CASING	A	WOOD	WHITE
89	FIRST	PORCH-FRONT	DOOR	A	WOOD	WHITE
95	BASEMENT	EXTERIOR	WINDOW-CASING	B	WOOD	WHITE
96	BASEMENT	EXTERIOR	WINDOW-SILL	B	WOOD	WHITE
97	BASEMENT	EXTERIOR	WINDOW-SASH	B	WOOD	WHITE
98	BASEMENT	EXTERIOR	SIDING	B	WOOD	WHITE
99	BASEMENT	EXTERIOR	STAIR-STRINGER	C	WOOD	WHITE
105	BASEMENT	EXTERIOR	WALL	C	WOOD	WHITE
106	BASEMENT	EXTERIOR	COLUMN	C	WOOD	WHITE
110	FIRST	PORCH-BACK	COLUMN	C	WOOD	BLUE GRAY
114	FIRST	PORCH-BACK	FLOOR	C	WOOD	BLUE GRAY
115	FIRST	PORCH-BACK	THRESHOLD	C	WOOD	BLUE GRAY
116	FIRST	PORCH-BACK	HANDRAIL-TOPRAIL	C	WOOD	BLUE GRAY
117	FIRST	PORCH-BACK	CEILING	C	WOOD	WHITE
121	FIRST	PORCH-BACK	CEILING	C	WOOD PLY	WHITE
122	FIRST	PORCH-BACK	CEILING	C	WOOD	WHITE
123	FIRST	PORCH-BACK	DOOR	C	WOOD	WHITE
124	FIRST	PORCH-BACK	WALL	C	WOOD	WHITE
125	FIRST	EXTERIOR	WALL	D	WOOD	WHITE
126	FIRST	EXTERIOR	WINDOW-CASING	D	WOOD	WHITE
128	FIRST	EXTERIOR	ROOF	C	METAL	MULTI-COLORED
130	FIRST	EXTERIOR	WINDOW-SILL	C	WOOD	WHITE

The following exterior building components are assumed to be coated with LBP at **305 Letcher Avenue**.

- The white painted exterior siding.
- The white painted front porch components.
- The blue-gray painted thresholds.
- The blue-gray painted shutters.
- The multicolored paint in poor condition on the roof over the porch.
- All window components.
- Exterior doors and casings.
- The white and blue-gray painted back porch components (including lattice).
- The white painted stair stringer associated with the exterior stairwell.



Table 3: - 307 Letcher Avenue Lead Based Paint Positive Sampling Results: September 19, 2012

Reading #	Floor	Sample Location	Component	Side	Substrate	Color
131	FIRST	PORCH-FRONT	WALL	A	WOOD	WHITE
132	FIRST	PORCH-FRONT	COLUMN	A	WOOD	WHITE
133	FIRST	PORCH-FRONT	HANDRAIL-TOPRAIL	A	WOOD	WHITE
134	FIRST	PORCH-FRONT	HANDRAIL-TOPRAIL	A	WOOD	WHITE
135	FIRST	PORCH-FRONT	HANDRAIL-BALUSTERS	A	WOOD	WHITE
136	FIRST	PORCH-FRONT	CEILING	A	WOOD	WHITE
137	FIRST	PORCH-FRONT	BEAM	A	WOOD	WHITE
138	FIRST	PORCH-FRONT	SOFFIT	A	WOOD	WHITE
139	FIRST	PORCH-FRONT	FASCIA	A	WOOD	WHITE
140	FIRST	PORCH-FRONT	WINDOW-CASING	A	WOOD	WHITE
141	FIRST	PORCH-FRONT	WINDOW-SILL	A	WOOD	WHITE
142	FIRST	PORCH-FRONT	WINDOW-SASH	A	WOOD	WHITE
144	FIRST	PORCH-FRONT	DOOR CASING	A	WOOD	WHITE
146	FIRST	EXTERIOR	WALL	B	WOOD	WHITE
148	FIRST	EXTERIOR	WINDOW-CASING	B	WOOD	WHITE
153	FIRST	EXTERIOR	VENT PIPE	B	METAL	WHITE
154	FIRST	PORCH-BACK	WALL	C	WOOD	WHITE
155	FIRST	PORCH-BACK	FLOOR	C	WOOD	BLUE GRAY
156	FIRST	PORCH-BACK	THRESHOLD	C	WOOD	BLUE GRAY
157	FIRST	PORCH-BACK	COLUMN	C	WOOD	WHITE
160	FIRST	PORCH-BACK	HANDRAIL-TOPRAIL	C	WOOD	WHITE
162	BASEMENT	PORCH-BACK	DOOR CASING	C	WOOD	WHITE
163	BASEMENT	PORCH-BACK	WALL	C	STONE MASONRY	WHITE
168	BASEMENT	PORCH-BACK	CEILING	C	WOOD	WHITE
170	BASEMENT	PORCH-BACK	COLUMN	C	WOOD	WHITE

The following exterior building components are assumed to be coated with LBP at 307 Letcher Avenue.

- The white painted exterior siding and stone masonry.
- The white painted porch components.
- All white painted vent pipes.
- The blue-gray painted thresholds.
- The blue-gray painted flooring.



- The multicolored paint in poor condition on the roof over the porch which was inaccessible due to absence of upstairs tenant but which tested positive at other locations.
- All window components.
- Exterior doors and casings (except the front doors). Note. Extrapolated from other buildings.

Table 4: - 309 Letcher Avenue Lead Based Paint Positive Sampling Results: September 19, 2012

Reading #	Floor	Sample Location	Component	Side	Substrate	Color
177	FIRST	PORCH-FRONT	WALL	A	WOOD	WHITE
178	FIRST	PORCH-FRONT	WALL	A	WOOD	GREEN
179	FIRST	PORCH-FRONT	COLUMN	A	WOOD	GREEN
180	FIRST	PORCH-FRONT	BEAM	A	WOOD	GREEN
181	FIRST	PORCH-FRONT	SOFFIT	A	WOOD	GREEN
182	FIRST	PORCH-FRONT	CEILING	A	WOOD	GREEN
184	FIRST	PORCH-FRONT	DOOR CASING	A	WOOD	GREEN
185	FIRST	PORCH-FRONT	DOOR CASING	A	WOOD	WHITE
186	FIRST	PORCH-FRONT	DOOR	A	WOOD	WHITE
187	FIRST	PORCH-FRONT	THRESHOLD	A	WOOD	BLUE GRAY
188	FIRST	PORCH-FRONT	WINDOW-SILL	A	WOOD	GREEN
189	FIRST	PORCH-FRONT	SHUTTER	A	WOOD	GREEN
190	FIRST	PORCH-FRONT	WINDOW-SASH	A	WOOD	WHITE
191	FIRST	EXTERIOR	ROOF	A	METAL	GREEN
192	FIRST	EXTERIOR	WALL	B	WOOD	WHITE
193	FIRST	EXTERIOR	WALL	B	WOOD	GREEN
197	FIRST	EXTERIOR	WINDOW CAGE	C	METAL	GREEN
198	FIRST	EXTERIOR	WINDOW CAGE	C	METAL	GREEN
199	FIRST	EXTERIOR	WINDOW-CASING	C	WOOD	GREEN
200	FIRST	EXTERIOR	WINDOW-SILL	C	WOOD	GREEN
201	FIRST	EXTERIOR	WINDOW-SASH	C	WOOD	WHITE
204	FIRST	PORCH-BACK	FLOOR	C	WOOD	BLUE GRAY
205	FIRST	PORCH-BACK	WALL	C	WOOD	WHITE
206	FIRST	PORCH-BACK	FRAMING	C	WOOD	WHITE
207	FIRST	PORCH-BACK	WALL-BOTTOM	C	WOOD	WHITE
208	FIRST	PORCH-BACK	WALL-TOP	C	WOOD	WHITE
209	FIRST	PORCH-BACK	DOOR CASING	C	WOOD	WHITE
210	FIRST	PORCH-BACK	DOOR	C	WOOD	WHITE

The following exterior building components are assumed to be coated with LBP at **309 Letcher Avenue**.

- The white painted exterior siding and stone masonry.



- The white and green painted porch components.
- The green painted shutters.
- The blue-gray painted thresholds.
- The blue-gray painted flooring.
- The green painted roof over the porch.
- All window components including the green painted metal grates.
- Exterior doors and casings (except the front doors). Note. Extrapolated from other buildings.

Applicable Regulations

OSHA Regulations for Lead-Based Paint

It is important to note that any painted surface may contain concentrations of lead in the paint, which when disturbed, may generate lead dust greater than the maximum exposure concentration of 30 micrograms per cubic millimeter established by the OSHA “Lead Exposure in Construction Rule” (29 CFR 1926.62). The OSHA standard gives no guidance on acceptable levels of lead in paint at which no exposure to airborne lead (above the action level) would be expected. Rather, OSHA defines airborne concentrations, and references specific types of work practices and operations from which a lead hazard may be generated (reference 29 CFR 1926.62, section d). Environmental and personnel monitoring should be conducted during any removal or demolition process (as appropriate) to determine actual personal exposure. This monitoring information can be used to determine the levels of personnel protection and environmental controls required for work involving specific removal/demolition processes on specific structures. Under OSHA requirements, the Contractor performing the work will be required to conduct this monitoring. It is important to note that environmental controls will vary dependent upon the content of lead in paint, the process used to remove it, duration of the work, and the amount of paint to be removed.

EPA Regulations for Lead-Based Paint

For disposal of construction/demolition debris that has LBP, the Environmental Protection Agency (EPA) requires that testing of lead content be performed to determine proper disposal. EPA regulations require that a generator of waste determine if that waste is hazardous by performing testing in accordance with the requirements of 40 CFR 261.11 or for wastes that may be RCRA hazardous (such as items with high lead content), the generator may assume that the waste is hazardous and comply with the hazardous waste regulation.



ACKNOWLEDGEMENTS

If you have any questions concerning this report, please feel free to contact the undersigned. Froehling & Robertson, Inc. appreciates the opportunity to work with you as your Environmental Consultant, and looks forward to a continued cordial working relationship with you.

Respectfully Submitted,
FROEHLING & ROBERTSON, INC.

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Attachments: Limitations
 Explanation of XRF data table
 XRF Data Table
 Performance Characteristic Sheet



LIMITATIONS

This report has been prepared for the exclusive use of Virginia Military Institute and/or its authorized agents. This report has been prepared in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. Our conclusions and recommendations are based in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others.

Our observations and recommendations are based upon conditions readily visible at the site at the time of our site visit, and upon current industry standards. During F&R's inspection, accessible exterior areas were visually surveyed for the presence of suspect lead-based paint (LBP) containing materials. Areas excluded from the scope of the survey such as the interior, as well as inaccessible areas, such as behind solid ceilings or behind solid walls were not surveyed, therefore some lead-containing materials may not have been identified. Areas inspected for lead-based paint containing materials were limited to those designated by the scope of services by the Client. As with any similar survey of this nature, actual conditions exist only at the precise locations from which LBP samples were measured. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. No other warranty, expressed or implied, is made. Individuals who have completed the EPA/State approved lead risk inspector course collected all readings. F&R did not sample drinking water, appliances, or bathroom fixtures as part of the scope of work.

Under this scope of services, F&R assumes no responsibility regarding response actions (e.g. O&M Plans, Encapsulation, Abatement, Removal, Tenant Notification, etc.) initiated as a result of these findings. F&R assumes no liability for the duties and responsibilities of the Client with respect to compliance with OSHA regulations. Compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements and should be performed by appropriately qualified and licensed-personnel, as warranted.

F&R, by virtue of providing the services described in this report, does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies any conditions at the site that may present a potential danger to public health, safety, or the environment. It is the client's responsibility to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, any information that may be necessary to prevent any danger to public health, safety, or the environment.



**EXPLANATION OF XRF DATA TABLE
XRF DATA TABLE
Performance Characteristic Sheet**



EXPLANATION OF XRF DATA TABLES

The table header displays the XL-309a serial number, site (optional), and data download date.

Column	Description
Reading No	Sample numbers.
Duration	Amount of time it took for the XRF to take the reading.
Units	Unit of measure that the XRF uses to report readings: mg/cm ² = milligrams per square centimeter.
Component	Specific building structural or design element being tested.
Substrate	Substrate. The type of material underlying the painted coating.
Side	Side of the structure where the specific reading was taken based on designations A, B, C, D, with A being the street (address) side of the structure.
Color	Color of the painted or varnished surface. (VARN = "varnished")
Result	Result of the test: NEG = negative POS = positive NULL = incomplete test / reading error
	<i>There is no inconclusive range for the Niton XL-309a.</i>
Depth Index	A depth index reading of less than 1.5 indicates that lead is near the surface of the material tested. A depth index reading between 1.6 and 4 indicates that lead was found at a moderate depth. A depth index reading of 4 or higher indicates that lead was found deeply buried in the material tested.
Pbc	Combined L and K-Shell x-ray readings of lead level (in milligrams per square centimeter) with statistical precision range.
PbL, and PbK	L and K-Shell x-ray readings of lead level (in milligrams per square centimeter).

Reading No	Units	COMPONENT	SUBSTRATE	COLOR	SIDE	CONDITION	ROOM	FLOOR	SITE	Results	Depth Index	PbC	PbL	PbK
1	cps											2.01	0.42	0.01
2	mg / cm ^2	CALIBRATION							303 LETCHER AVE	Positive	1.12	1	1	< LOD
3	mg / cm ^2	CALIBRATION							303 LETCHER AVE	Positive	1.11	1	1	< LOD
4	mg / cm ^2	CALIBRATION							303 LETCHER AVE	Negative	1.07	0.9	0.9	< LOD
5	mg / cm ^2	SIDING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
6	mg / cm ^2	COLUMN	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
7	mg / cm ^2	DOOR CASING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
8	mg / cm ^2	DOOR	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	1.6	1.8	1.6
9	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
10	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
11	mg / cm ^2	DOOR CASING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	6.99	< LOD	< LOD	< LOD
12	mg / cm ^2	DOOR	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	5.2	< LOD	5.2
13	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Null	10	< LOD	< LOD	< LOD
14	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	9.92	1.5	1.5	1.5
15	mg / cm ^2	HANDRAIL-BALUSTERS	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	3.83	2.7	2.7	< LOD
16	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
17	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
18	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
19	mg / cm ^2	THRESHOLD	WOOD	BLUE GRAY	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	7.99	1.1	1.1	1.2
20	mg / cm ^2	BASEBOARD	WOOD	BLUE GRAY	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
21	mg / cm ^2	BASEBOARD	WOOD	BLUE GRAY	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	7.65	< LOD	< LOD	< LOD
22	mg / cm ^2	BASEBOARD	WOOD	BLUE GRAY	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1.71	< LOD	< LOD	< LOD
23	mg / cm ^2	HANDRAIL-TOPRAIL	METAL	BLUE GRAY	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
24	mg / cm ^2	HANDRAIL-BALUSTERS	METAL	BLUE GRAY	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
25	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
26	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
27	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	7.12	25.9	< LOD	25.9
28	mg / cm ^2	CEILING	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
29	mg / cm ^2	BEAM	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
30	mg / cm ^2	ROOF	METAL	MULTICOLORED	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	3.63	< LOD	< LOD	< LOD
31	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	6.05	< LOD	< LOD	< LOD
32	mg / cm ^2	LATTICE	WOOD	BLUE GRAY	B	POOR	EXTERIOR	FIRST	303 LETCHER AVE	Positive	3.29	< LOD	< LOD	< LOD
33	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	EXTERIOR	FIRST	303 LETCHER AVE	Negative	4.96	< LOD	< LOD	< LOD
34	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	EXTERIOR	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
35	mg / cm ^2	STAIR-STRINGER	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
36	mg / cm ^2	STAIR-RISER	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
37	mg / cm ^2	STAIR-TREAD	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
38	mg / cm ^2	STAIR-RAILING	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	FIRST	303 LETCHER AVE	Null	1	< LOD	< LOD	< LOD
39	mg / cm ^2	STAIR-RAILING	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
40	mg / cm ^2	STAIR-BALUSTER	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	FIRST	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
41	mg / cm ^2	WALL	WOOD	WHITE	B	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
42	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	B	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
43	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	1.08	< LOD	< LOD	< LOD
44	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	4.31	< LOD	< LOD	< LOD
45	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Null	1	< LOD	< LOD	< LOD
46	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	PORCH-FRONT	FIRST	303 LETCHER AVE	Negative	2.15	< LOD	< LOD	< LOD
47	mg / cm ^2	DOOR	WOOD	WHITE	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	5.62	< LOD	< LOD	< LOD
48	mg / cm ^2	DOOR	WOOD	WHITE	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	10	4.7	< LOD	4.7
49	mg / cm ^2	DOOR CASING	WOOD	WHITE	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	10	5.6	< LOD	5.6
50	mg / cm ^2	WALL	WOOD	WHITE	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD

Reading No	Units	COMPONENT	SUBSTRATE	COLOR	SIDE	CONDITION	ROOM	FLOOR	SITE	Results	Depth Index	PbC	PbL	PbK
51	mg / cm ^2	CEILING	WOOD	WHITE	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	5.94	< LOD	< LOD	< LOD
52	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
53	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Negative	4.48	< LOD	< LOD	< LOD
54	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	EXTERIOR	SECOND	303 LETCHER AVE	Positive	8.6	1.9	1.7	1.9
55	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Negative	4.24	< LOD	< LOD	< LOD
56	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Negative	1.64	< LOD	< LOD	< LOD
57	mg / cm ^2	COLUMN	WOOD	WHITE	C	POOR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Positive	9.97	< LOD	< LOD	< LOD
58	mg / cm ^2	DOOR	WOOD	WHITE	C	INTACT	PORCH-BACK	BASEMENT	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
59	mg / cm ^2	DOOR CASING	WOOD	WHITE	C	INTACT	PORCH-BACK	BASEMENT	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
60	mg / cm ^2	WALL	WOOD	WHITE	C	FAIR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
61	mg / cm ^2	DOOR CASING	WOOD	WHITE	C	FAIR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
62	mg / cm ^2	HANDRAIL-TOPRAIL	METAL	BLACK	C	INTACT	PORCH-BACK	BASEMENT	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
63	mg / cm ^2	LATTICE	WOOD	WHITE	C	POOR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Negative	6.32	0.7	0.7	1
64	mg / cm ^2	LATTICE	WOOD	WHITE	C	POOR	PORCH-BACK	BASEMENT	303 LETCHER AVE	Positive	7.31	2.6	< LOD	2.6
65	mg / cm ^2	DOWNSPOUT	METAL	WHITE	D	POOR	EXTERIOR	BASEMENT	303 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
66	mg / cm ^2	DOWNSPOUT	METAL	WHITE	D	POOR	EXTERIOR	BASEMENT	303 LETCHER AVE	Negative	2.35	< LOD	< LOD	< LOD
67	mg / cm ^2	DOWNSPOUT	METAL	WHITE	D	POOR	EXTERIOR	BASEMENT	303 LETCHER AVE	Negative	1.91	< LOD	< LOD	< LOD
68	mg / cm ^2	WALL	WOOD	WHITE	C	FAIR	PORCH-BACK	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
69	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	C	FAIR	PORCH-BACK	FIRST	303 LETCHER AVE	Positive	3.19	< LOD	< LOD	< LOD
70	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	C	FAIR	PORCH-BACK	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
71	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	303 LETCHER AVE	Negative	6.88	0.5	0.5	< LOD
72	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
73	mg / cm ^2	HANDRAIL-BALUSTERS	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	303 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
74	mg / cm ^2	FLOOR	CONCRETE	GREEN	A	INTACT	PORCH-FRONT	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
75	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
76	mg / cm ^2	HANDRAIL-BALUSTERS	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
77	mg / cm ^2	COLUMN	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
78	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
79	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
80	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
81	mg / cm ^2	SHUTTER	WOOD	BLUE GRAY	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	3.43	4.4	4.4	< LOD
82	mg / cm ^2	CROWN MOLDING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
83	mg / cm ^2	CEILING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
84	mg / cm ^2	BEAM	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
85	mg / cm ^2	SOFFIT	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Negative	1.09	< LOD	< LOD	< LOD
86	mg / cm ^2	GUTTER	METAL	WHITE	A	POOR	PORCH-FRONT	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
87	mg / cm ^2	FASCIA	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
88	mg / cm ^2	DOOR CASING	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	7.49	< LOD	< LOD	< LOD
89	mg / cm ^2	DOOR	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Positive	7.23	< LOD	< LOD	< LOD
90	mg / cm ^2	THRESHOLD	WOOD	GREEN	A	FAIR	PORCH-FRONT	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
91	mg / cm ^2	ROOF	METAL	BLACK	A	INTACT	PORCH-FRONT	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
92	mg / cm ^2	LATTICE	WOOD	GREEN	A	INTACT	PORCH-FRONT	BASEMENT	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
93	mg / cm ^2	LATTICE	WOOD	GREEN	B	INTACT	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
94	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	INTACT	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	1.24	< LOD	< LOD	< LOD
95	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	B	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
96	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	B	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	5.53	4.4	< LOD	4.4
97	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	B	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	8.64	< LOD	< LOD	< LOD
98	mg / cm ^2	SIDING	WOOD	WHITE	B	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
99	mg / cm ^2	STAIR-STRINGER	WOOD	WHITE	C	INTACT	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	4.9	1.5	1.2	1.5
100	mg / cm ^2	STAIR-RISER	WOOD	BLUE GRAY	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	2.07	< LOD	< LOD	< LOD

Reading No	Units	COMPONENT	SUBSTRATE	COLOR	SIDE	CONDITION	ROOM	FLOOR	SITE	Results	Depth Index	PbC	PbL	PbK
101	mg / cm ^2	STAIR-RISER	WOOD	BLUE GRAY	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	3.36	< LOD	< LOD	< LOD
102	mg / cm ^2	STAIR-RISER	WOOD	BLUE GRAY	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	3.07	< LOD	< LOD	< LOD
103	mg / cm ^2	STAIR-TREAD	WOOD	BLUE GRAY	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	4.07	< LOD	< LOD	< LOD
104	mg / cm ^2	STAIR-TREAD	WOOD	BLUE GRAY	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	5.46	< LOD	< LOD	< LOD
105	mg / cm ^2	WALL	WOOD	WHITE	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
106	mg / cm ^2	COLUMN	WOOD	WHITE	C	FAIR	EXTERIOR	BASEMENT	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
107	mg / cm ^2	FOUNDATION COVER	WOOD	BLUE GRAY	C	POOR	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	10	< LOD	< LOD	< LOD
108	mg / cm ^2	STAIR-RAILING	WOOD	BLUE GRAY	C	INTACT	EXTERIOR	BASEMENT	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
109	mg / cm ^2	STAIR-STRINGER	WOOD	BLUE GRAY	C	FAIR	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
110	mg / cm ^2	COLUMN	WOOD	BLUE GRAY	C	INTACT	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	7.32	2.2	2.2	< LOD
111	mg / cm ^2	STAIR-RISER	WOOD	BLUE GRAY	C	INTACT	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
112	mg / cm ^2	STAIR-TREAD	WOOD	BLUE GRAY	C	FAIR	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
113	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	4.14	< LOD	< LOD	< LOD
114	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	5.84	1.1	1.1	1.1
115	mg / cm ^2	THRESHOLD	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	4.13	< LOD	1.6	< LOD
116	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	BLUE GRAY	C	FAIR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	10	2.3	< LOD	2.3
117	mg / cm ^2	CEILING	WOOD	WHITE	C	INTACT	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	5.63	3.9	< LOD	3.9
118	mg / cm ^2	GUTTER	METAL	WHITE	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	2.18	< LOD	< LOD	< LOD
119	mg / cm ^2	GUTTER	METAL	WHITE	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	6.42	< LOD	< LOD	< LOD
120	mg / cm ^2	GUTTER	METAL	WHITE	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Negative	1.73	< LOD	< LOD	< LOD
121	mg / cm ^2	CEILING	WOOD PLY	WHITE	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	10	1.5	< LOD	1.5
122	mg / cm ^2	CEILING	WOOD	WHITE	C	FAIR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	6.1	< LOD	< LOD	< LOD
123	mg / cm ^2	DOOR	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	5.66	< LOD	< LOD	< LOD
124	mg / cm ^2	WALL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
125	mg / cm ^2	WALL	WOOD	WHITE	D	POOR	EXTERIOR	FIRST	305 LETCHER AVE	Positive	6.74	< LOD	< LOD	< LOD
126	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	D	POOR	EXTERIOR	FIRST	305 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
127	mg / cm ^2	DWNSPT	METAL	WHITE	D	POOR	EXTERIOR	FIRST	305 LETCHER AVE	Negative	2.33	< LOD	< LOD	< LOD
128	mg / cm ^2	ROOF	METAL	MULTICOLORED	C	INTACT	EXTERIOR	FIRST	305 LETCHER AVE	Positive	2.04	< LOD	< LOD	< LOD
129	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	C	POOR	EXTERIOR	FIRST	305 LETCHER AVE	Negative	2.33	< LOD	< LOD	< LOD
130	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	C	POOR	EXTERIOR	FIRST	305 LETCHER AVE	Positive	4.62	< LOD	< LOD	< LOD
131	mg / cm ^2	WALL	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	7.88	< LOD	< LOD	< LOD
132	mg / cm ^2	COLUMN	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
133	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	6.82	< LOD	< LOD	< LOD
134	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	6.33	3.5	3.5	< LOD
135	mg / cm ^2	HANDRAIL-BALUSTERS	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	9.85	< LOD	< LOD	< LOD
136	mg / cm ^2	CEILING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
137	mg / cm ^2	BEAM	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
138	mg / cm ^2	SOFFIT	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
139	mg / cm ^2	FASCIA	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
140	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
141	mg / cm ^2	WINDOW-SILL	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	9.84	< LOD	< LOD	< LOD
142	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	3.81	< LOD	< LOD	< LOD
143	mg / cm ^2	DOOR	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
144	mg / cm ^2	DOOR CASING	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
145	mg / cm ^2	DOOR	WOOD	WHITE	A	INTACT	PORCH-FRONT	FIRST	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
146	mg / cm ^2	WALL	WOOD	WHITE	B	POOR	EXTERIOR	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
147	mg / cm ^2	DWNSPT	METAL	WHITE	B	POOR	EXTERIOR	FIRST	307 LETCHER AVE	Negative	2.86	< LOD	< LOD	< LOD
148	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	B	POOR	EXTERIOR	FIRST	307 LETCHER AVE	Positive	6.5	< LOD	< LOD	< LOD
149	mg / cm ^2	CRAWLSPACE ACCESS DOOR	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	BASEMENT	307 LETCHER AVE	Negative	1.21	< LOD	< LOD	< LOD
150	mg / cm ^2	CRAWLSPACE ACCESS DOOR	WOOD	BLUE GRAY	B	FAIR	EXTERIOR	BASEMENT	307 LETCHER AVE	Negative	2	< LOD	< LOD	< LOD

Reading No	Units	COMPONENT	SUBSTRATE	COLOR	SIDE	CONDITION	ROOM	FLOOR	SITE	Results	Depth Index	PbC	PbL	PbK
151	mg / cm ^2	WALL	STONE MASONRY	BLUE GRAY	B	POOR	EXTERIOR	BASEMENT	307 LETCHER AVE	Negative	1.65	0.23	0.23	< LOD
152	mg / cm ^2	WALL	STONE MASONRY	BLUE GRAY	B	POOR	EXTERIOR	BASEMENT	307 LETCHER AVE	Negative	1.39	0.12	0.12	0.9
153	mg / cm ^2	VENT PIPE	METAL	WHITE	B	POOR	EXTERIOR	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
154	mg / cm ^2	WALL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
155	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Positive	6.31	2.2	1.2	2.2
156	mg / cm ^2	THRESHOLD	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Positive	4.94	< LOD	< LOD	< LOD
157	mg / cm ^2	COLUMN	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
158	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
159	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Negative	7.21	< LOD	< LOD	< LOD
160	mg / cm ^2	HANDRAIL-TOPRAIL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
161	mg / cm ^2	FLOOR	CONCRETE	BLUE GRAY	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1.41	< LOD	< LOD	< LOD
162	mg / cm ^2	DOOR CASING	WOOD	WHITE	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
163	mg / cm ^2	WALL	STONE MASONRY	WHITE	C	FAIR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Positive	10	2.2	1.2	2.2
164	mg / cm ^2	STAIR-STRINGER	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
165	mg / cm ^2	STAIR-RISER	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1.19	< LOD	< LOD	< LOD
166	mg / cm ^2	STAIR-TREAD	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
167	mg / cm ^2	STAIR-RAILING	WOOD	WHITE	C	INTACT	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
168	mg / cm ^2	CEILING	WOOD	WHITE	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Positive	7.48	2.3	2.3	< LOD
169	mg / cm ^2	WALL	WOOD PLY	WHITE	C	INTACT	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
170	mg / cm ^2	COLUMN	WOOD	WHITE	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Positive	10	2.5	< LOD	2.5
171	mg / cm ^2	LATTICE	WOOD	WHITE	C	FAIR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Null	1	< LOD	< LOD	< LOD
172	mg / cm ^2	LATTICE	WOOD	WHITE	C	FAIR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
173	mg / cm ^2	COLUMN	CMU	BLUE GRAY	C	INTACT	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	6.43	< LOD	< LOD	< LOD
174	mg / cm ^2	WALL	WOOD PLY	WHITE	C	POOR	PORCH-BACK	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
175	mg / cm ^2	WINDOW-CASING	WOOD	WHITE	D	POOR	BASEMENT	BASEMENT	307 LETCHER AVE	Negative	1.58	< LOD	< LOD	< LOD
176	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	D	POOR	BASEMENT	BASEMENT	307 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
177	mg / cm ^2	WALL	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
178	mg / cm ^2	WALL	WOOD	GREEN	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	2.87	< LOD	< LOD	< LOD
179	mg / cm ^2	COLUMN	WOOD	GREEN	A	POOR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
180	mg / cm ^2	BEAM	WOOD	GREEN	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	2.79	< LOD	< LOD	< LOD
181	mg / cm ^2	SOFFIT	WOOD	GREEN	A	POOR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	3.17	< LOD	< LOD	< LOD
182	mg / cm ^2	CEILING	WOOD	GREEN	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	4.6	< LOD	< LOD	< LOD
183	mg / cm ^2	GUTTER	METAL	GREEN	A	POOR	PORCH-FRONT	FIRST	309 LETCHER AVE	Negative	2.9	< LOD	< LOD	< LOD
184	mg / cm ^2	DOOR CASING	WOOD	GREEN	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	2.3	< LOD	< LOD	< LOD
185	mg / cm ^2	DOOR CASING	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
186	mg / cm ^2	DOOR	WOOD	WHITE	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
187	mg / cm ^2	THRESHOLD	WOOD	BLUE GRAY	A	POOR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	3.5	< LOD	< LOD	< LOD
188	mg / cm ^2	WINDOW-SILL	WOOD	GREEN	A	FAIR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	2.54	2.7	2.7	< LOD
189	mg / cm ^2	SHUTTER	WOOD	GREEN	A	INTACT	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	2.55	< LOD	< LOD	< LOD
190	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	A	POOR	PORCH-FRONT	FIRST	309 LETCHER AVE	Positive	4.88	< LOD	< LOD	< LOD
191	mg / cm ^2	ROOF	METAL	GREEN	A	POOR	EXTERIOR	FIRST	309 LETCHER AVE	Positive	3.49	< LOD	< LOD	< LOD
192	mg / cm ^2	WALL	WOOD	WHITE	B	POOR	EXTERIOR	FIRST	309 LETCHER AVE	Positive	9.24	< LOD	< LOD	< LOD
193	mg / cm ^2	WALL	WOOD	GREEN	B	POOR	EXTERIOR	FIRST	309 LETCHER AVE	Positive	2.91	< LOD	< LOD	< LOD
194	mg / cm ^2	DOWNSPOUT	METAL	GREEN	B	POOR	EXTERIOR	FIRST	309 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
195	mg / cm ^2	DOWNSPOUT	METAL	WHITE	B	POOR	EXTERIOR	FIRST	309 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
196	mg / cm ^2	WINDOW CAGE	METAL	GREEN	C	INTACT	EXTERIOR	FIRST	309 LETCHER AVE	Negative	1.56	< LOD	< LOD	< LOD
197	mg / cm ^2	WINDOW CAGE	METAL	GREEN	C	INTACT	EXTERIOR	FIRST	309 LETCHER AVE	Positive	2.93	< LOD	< LOD	< LOD
198	mg / cm ^2	WINDOW CAGE	METAL	GREEN	C	INTACT	EXTERIOR	FIRST	309 LETCHER AVE	Positive	3.29	< LOD	< LOD	< LOD
199	mg / cm ^2	WINDOW-CASING	WOOD	GREEN	C	FAIR	EXTERIOR	FIRST	309 LETCHER AVE	Positive	2.48	3.3	3.3	< LOD
200	mg / cm ^2	WINDOW-SILL	WOOD	GREEN	C	FAIR	EXTERIOR	FIRST	309 LETCHER AVE	Positive	2.69	< LOD	< LOD	< LOD

Reading No	Units	COMPONENT	SUBSTRATE	COLOR	SIDE	CONDITION	ROOM	FLOOR	SITE	Results	Depth Index	PbC	PbL	PbK
201	mg / cm ^2	WINDOW-SASH	WOOD	WHITE	C	FAIR	EXTERIOR	FIRST	309 LETCHER AVE	Positive	8.57	< LOD	< LOD	< LOD
202	mg / cm ^2	DOOR	WOOD	WHITE	C	FAIR	EXTERIOR	FIRST	309 LETCHER AVE	Negative	2.02	< LOD	< LOD	< LOD
203	mg / cm ^2	DOOR CASING	WOOD	WHITE	C	INTACT	EXTERIOR	FIRST	309 LETCHER AVE	Negative	1	< LOD	< LOD	< LOD
204	mg / cm ^2	FLOOR	WOOD	BLUE GRAY	C	POOR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	5.71	< LOD	< LOD	< LOD
205	mg / cm ^2	WALL	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	9.61	< LOD	< LOD	< LOD
206	mg / cm ^2	FRAMING	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	5.26	< LOD	< LOD	< LOD
207	mg / cm ^2	WALL-BOTTOM	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	10	< LOD	< LOD	< LOD
208	mg / cm ^2	WALL-TOP	WOOD	WHITE	C	FAIR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	9.83	< LOD	< LOD	< LOD
209	mg / cm ^2	DOOR CASING	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	8.51	4.6	< LOD	4.6
210	mg / cm ^2	DOOR	WOOD	WHITE	C	POOR	PORCH-BACK	FIRST	309 LETCHER AVE	Positive	8.98	< LOD	< LOD	< LOD
211	mg / cm ^2	CALIBRATION							309 LETCHER AVE	Negative	1.06	0.9	0.9	< LOD
212	mg / cm ^2	CALIBRATION							309 LETCHER AVE	Positive	1.14	1	1	0.7
213	mg / cm ^2	CALIBRATION							309 LETCHER AVE	Positive	1.11	1	1	< LOD

Performance Characteristic Sheet

EFFECTIVE DATE: September 24, 2004

EDITION NO.: 1

MANUFACTURER AND MODEL:

Make: Niton LLC

Tested Model: XLp 300

Source: ^{109}Cd

Note: This PCS is also applicable to the equivalent model variations indicated below, for the Lead-in-Paint K+L variable reading time mode, in the XLi and XLp series:

XLi 300A, XLi 301A, XLi 302A and XLi 303A.

XLp 300A, XLp 301A, XLp 302A and XLp 303A.

XLi 700A, XLi 701A, XLi 702A and XLi 703A.

XLp 700A, XLp 701A, XLp 702A, and XLp 703A.

Note: The XLi and XLp versions refer to the shape of the handle part of the instrument. The differences in the model numbers reflect other modes available, in addition to Lead-in-Paint modes. The manufacturer states that specifications for these instruments are identical for the source, detector, and detector electronics relative to the Lead-in-Paint mode.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Lead-in-Paint K+L variable reading time mode.

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm ² (inclusive)

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

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION:

For XRF results using Lead-in-Paint K+L variable reading time mode, substrate correction is not needed for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

INCONCLUSIVE RANGE OR THRESHOLD:

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

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted in August 2004 on 133 testing combinations. The instruments that were used to perform the testing had new sources; one instrument's was installed in November 2003 with 40 mCi initial strength, and the other's was installed June 2004 with 40 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Substrate correction is not needed for brick, concrete, drywall, metal, plaster or wood when using Lead-in-Paint K+L variable reading time mode, the normal operating mode for these instruments. If substrate correction is desired, refer to Chapter 7 of the HUD Guidelines for guidance on correcting XRF results for substrate bias.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use the K+L variable time mode readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

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

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

For the Lead-in-Paint K+L variable reading time mode, the instrument continues to read until it is moved away from the testing surface, terminated by the user, or the instrument software indicates the reading is complete. The following table provides testing time information for this testing mode. The times have been adjusted for source decay, normalized to the initial source strengths as noted above. Source strength and type of substrate will affect actual testing times. At the time of testing, the instruments had source strengths of 26.6 and 36.6 mCi.

Testing Times Using K+L Reading Mode (Seconds)						
Substrate	All Data			Median for laboratory-measured lead levels (mg/cm ²)		
	25 th Percentile	Median	75 th Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	11	19	11	15	11
Metal	4	12	18	9	12	14
Brick Concrete Plaster	8	16	22	15	18	16

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than or equal to the threshold, and negative if they are less than the threshold.

DOCUMENTATION:

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.