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LEAD-BASED PAINT INSPECTION AND VISUAL ASSESSMENT REPORT

Property Address:

1310 Wynkoop Dr
Colorado Springs, CO 80909

Prepared for:

City of Colorado Springs
702 E. Boulder St. Suite 202
Colorado Springs, CO 80903
719-385-6880

Inspected & Prepared By:

Matt Hothem
Lead Inspector / Risk Assessor
Colorado Environmental Solutions
597 Chandelle Road
Castle Rock, CO 80104
720-282-5800
License No: 17808

Lead-Based Paint Inspection Date:

March 31, 2015

Report Date:

April 2, 2015

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1.0) Cover Letter

4/2/2015

Prepared for: City of Colorado Springs
702 E. Boulder St. Suite 202
Colorado Springs, CO 80903
719-385-6880

Subject Property: 1310 Wynkoop Dr
Colorado Springs, CO 80909

Dear Client:

Please find the lead-based inspection and visual assessment report for the Detached Single Family Property(Single Unit) located at 1310 Wynkoop Dr Colorado Springs, CO 80909. The lead-based paint Inspection and visual assessment was performed following the Housing and Urban Development (HUD) Chapter 7 (Revised 1997) guidelines and all other Federal, State and Local regulations. Colorado Environmental Solutions is a certified evaluation firm in the State of Colorado and their certification # is 17808 with an expiration date of 12/20/2015. Matt Hothem performed the Inspection and is certified Lead Inspector/Risk Assessor in the State of Colorado and his certification # is 17807 with an expiration date 12/28/2016.

The inspection was performed using a Niton XLp 300 X-ray fluorescence (XRF) instrument. The serial number of XRF instrument used is 25987 and its source date is 1/28/2011. During the visual assessment of the property, During the visual assessment of the property CES observed deteriorated paint on the interior and exterior of the property. **In association with the visual assessment a lead-based paint inspection was performed and the results were positive for the presence of lead-based paint at the property**. Because the components that tested positive are in INTACT condition lead hazard reduction activities are not required at this time; however, ongoing biannual monitoring is recommended to ensure a hazard does not become present.

If you have any questions please contact us directly at 720-282-5800.

Regards,

Matt Hothem
Lead Inspector / Risk Assessor
Colorado Environmental Solutions

2.0) Executive Summary

City of Colorado Springs has authorized Colorado Environmental Solutions to perform a lead-based paint inspection at the Detached Single Family Property(Single Unit) located at 1310 Wynkoop Dr Colorado Springs, CO 80909. Colorado Environmental Solutions tested all painted components according to the specifications described in the protocols for lead-based paint testing in Chapter 7 of the Housing and Urban Development (HUD) Guidelines (Revised 1997) for the inspection of lead based paint. In addition all Federal, State and Local regulations governing the inspection of lead-based paint were followed. The lead-based paint inspection was performed using a Niton XLp 300 X-ray fluorescence (XRF) analyzer. From the exterior of the property wall “A” is aligned with the street and wall “B”, “C”, and “D” proceed clockwise around the exterior of the property. When testing the interior wall “A” in each room is the wall aligned with street. While facing wall “A”, wall “B” will always be to your right, wall “C” directly behind you and wall “D” to the left. Doors, windows and closets are designated as left, center or right depending on their location on the wall. In addition to a visual inspection of all painted surfaces throughout the entire property a surface-by-surface XRF inspection was performed to determine which surfaces were deteriorated and/or contained lead-based paint.

3.0) Scope of Inspection

3.1) Background Information

The property is located at 1310 Wynkoop Dr Colorado Springs, CO 80909. It is an Detached Single Family Property(Single Unit) built in 1967 with 2152 total square feet. Colorado Environmental Solutions has been contracted by City of Colorado Springs to perform a lead-based paint inspection on the above referenced property to determine the possible presence, condition, and location of lead-based paint. The inspection was conducted on March 31, 2015 from 8:00am to 10:00am.

3.2) Training

Colorado Environmental Solutions is a certified evaluation firm in the state of Colorado (Certification # 17808). Matt Hothem, the inspector who performed the inspection is a certified Lead Inspector/Risk Assessor in the state of Colorado (Certification # 17807). Colorado Environmental Solutions inspectors have been trained in the use, calibration and maintenance of the Niton XLp 300 X-Ray Fluorescence (XRF) analyzer, along with the principles of radiation safety.

3.3) Methods

Inspections are done using the inspection protocol in Chapter 7 of the Housing of Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1997 Revision) as well as all other Federal, State and Local guidelines. Testing is done using a Niton XLp 300 X-Ray fluorescence (XRF) analyzer bearing serial # of 25987 and a source date of 1/28/2011. The calibration of the XRF analyzer is done in accordance with the Performance Characteristic Sheet (PCS) for the instrument. The X-ray Fluorescence (XRF) instruments are calibrated using a National Institute of Standards and Technology (NIST) calibration sample closet to 1.0 mg/cm2 of lead content. Three calibration readings are taken before and after each inspection to insure manufacturer's standards are met. In addition three calibrations readings must be taken every four hours during an inspection. If for any reason the instrument is not maintaining a consistent calibration reading within the manufacturer's standards the analyzer is sent back to the manufacturer for repair.

4.0) Findings

4.1) Lead-based paint inspection results

Colorado Environmental Solutions has determined that the components highlighted in yellow of Appendix B/XRF Data sheets contain lead in amounts greater than or equal to 1.0mg/cm2.

4.2) Visual Assessment Results

The visual assessment identified the following:
Deteriorated paint..... **Yes**
Painted surfaces that are chewable, impact surfaces or friction surfaces..... **Yes**
Bare soil (soil surface that is not covered by pavement, sod or landscaping)..... **Yes**
Excessive accumulation of dust on most interior surfaces..... **No**

5.0) Conclusions

The components highlighted in yellow that are in Appendix B/XRF Results were found "positive" for lead, as defined by the EPA and HUD as containing lead in concentrations equal to or greater than 1.0 mg/cm2.

5.1) Lead Positive Findings and Stabilization Recommendations

a. Findings

Colorado Environmental Solutions found the components listed below to have a Lead content above the limit of 1.0 mg/cm2 as defined by the EPA and HUD.

READING	COMPONENT	SIDE	SUBSTRATE	COLOR	ROOM	CONDITION	DESC.	FLOOR	RESULTS	XFR RESULT
268	SHWR WALL	A	CONCRETE	WHITE	RM 12	INTACT		THIRD	Positive	4
280	SHWR WALL	D	CONCRETE	WHITE	RM 13	INTACT		THIRD	Positive	3.4

b. Recommendations

The components listed above tested Positive for Lead-based Paint and are in INTACT condition; therefore, stabilization of the components listed above is not recommended at this time. Colorado Environmental Solutions recommends the prospective owner have ongoing monitoring every 6 months to ensure a hazard does not become present. ***Please note:*** if the components listed above are disturbed an any way including but not limited to; renovation, demolition, and modernization a hazard will become present and Colorado Environmental Solutions recommends stabilizing the positive components utilizing "Lead Safe Work Practices" as outlined in The Lead Safe Housing Rule 24 CFR Part 35 as amended June 21, 2004.

5.2) Conclusions

According to Chapter 7 HUD guidelines, if one testing combination (i.e. window, door) is positive for lead in an interior or exterior room equivalent, then all other similar testing combinations in those areas are also assumed to be positive for lead. Likewise, the same is true for negative readings. All inaccessible areas are assumed to be positive even though they were not tested.

Given that the lead evaluation results indicate the presence of lead-based paint, the prospective owner may wish to obtain, at the owner's expense, additional services of a lead-based paint inspector or risk assessor, certified for the state in which the property is located, to help understand the positive results. This inspector would review the report provided by the Colorado Environmental Solutions and might reevaluate any area(s) in question and/or additional areas, and might make additional recommendations about lead hazard control actions. In addition the owner may wish to obtain additional services from a lead-based paint risk assessor to help explain how to address the positive findings in developing the paint stabilization plan that would result in the reduction of hazards.

This evaluation was completed in accordance with Lead Safe Housing Rule 24 CFR Part 35 subpart F as amended (2004). These evaluation methods can include direct

observation, immediate provision of results, repeated testing, and time-and-motion analysis.

Those components which were found to contain LBP and which were in intact condition should be monitored by the owner of the dwelling; any further deterioration of components or components that are already in poor condition should undergo corrective action to mitigate any potential hazards. In addition, some painted surfaces may contain levels of lead below 1.0 mg/cm2; these components could create lead dust or lead contaminated soil hazards if the paint is turned into dust by abrasion, scraping, sanding or friction. If conditions of intact paint surfaces become destabilized, these conditions will need to be addressed in the future. If any construction or modernization work is done on the premises, this report should be given to the contractors, as well as to any future tenants.

In compliance with HUD's Final Rule, potential hazards resulting from LBP must be subjected to corrective action to stabilize all deteriorated LBP in housing built before 1978, unless the property is exempt. Paint stabilization repairs any defect in the substrate and/or in building components that are causing the paint deterioration, removes all loose paint and other material from the surface to be treated utilizing lead safe work practices, and, in most cases, applies a new protective coating or paint. Any stabilization/construction activities that affect the existing paint films (including sanding and demolition) must be initiated by workers who have received proper training in the handling of lead-contaminated materials.

Colorado Environmental Solutions recommends stabilizing the positive components utilizing "Lead Safe Work Practices" as outlined in The Lead Safe Housing Rule 24 CFR Part 35 as amended June 21, 2004. In order for paint stabilization methods to be successful, components must be dry, structurally sound, and waterproof. Interim control measures on friction or impact surfaces, such as windows and doors, may lead to rapid treatment failure. It is the contractor's responsibility to follow all city, state and federal regulations when performing Lead Hazard Reduction Activities. All quantities are estimates. It is the contractor's responsibility to confirm all quantities and conditions.

6.0) Disclosure Responsibility

A copy of this report must be provided to new lessees (tenants) and purchasers of this property under Federal Law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords (lessors) and sellers are also required to distribute an educational pamphlet and include standard warning language in their leases or sales contracts to ensure that children and pregnant women are protected from lead-based paint (LBP) hazards

7.0) Disclaimers

This is our report of a visual survey, and X-Ray Fluorescence (XRF) analysis of the readily accessible areas of this building and tested components. The presence or absence of lead-based paint (LBP) or lead-based paint hazards applies only to the tested or assessed surfaces on the date of the field visit and it should be understood that conditions might change due to deterioration or maintenance. The results and material conditions noted within this report were accurate at the time of the inspection and in no way reflect the conditions at the property after the date of the inspection. Ongoing monitoring by the owner is usually necessary. No other environmental concerns were addressed during this inspection.

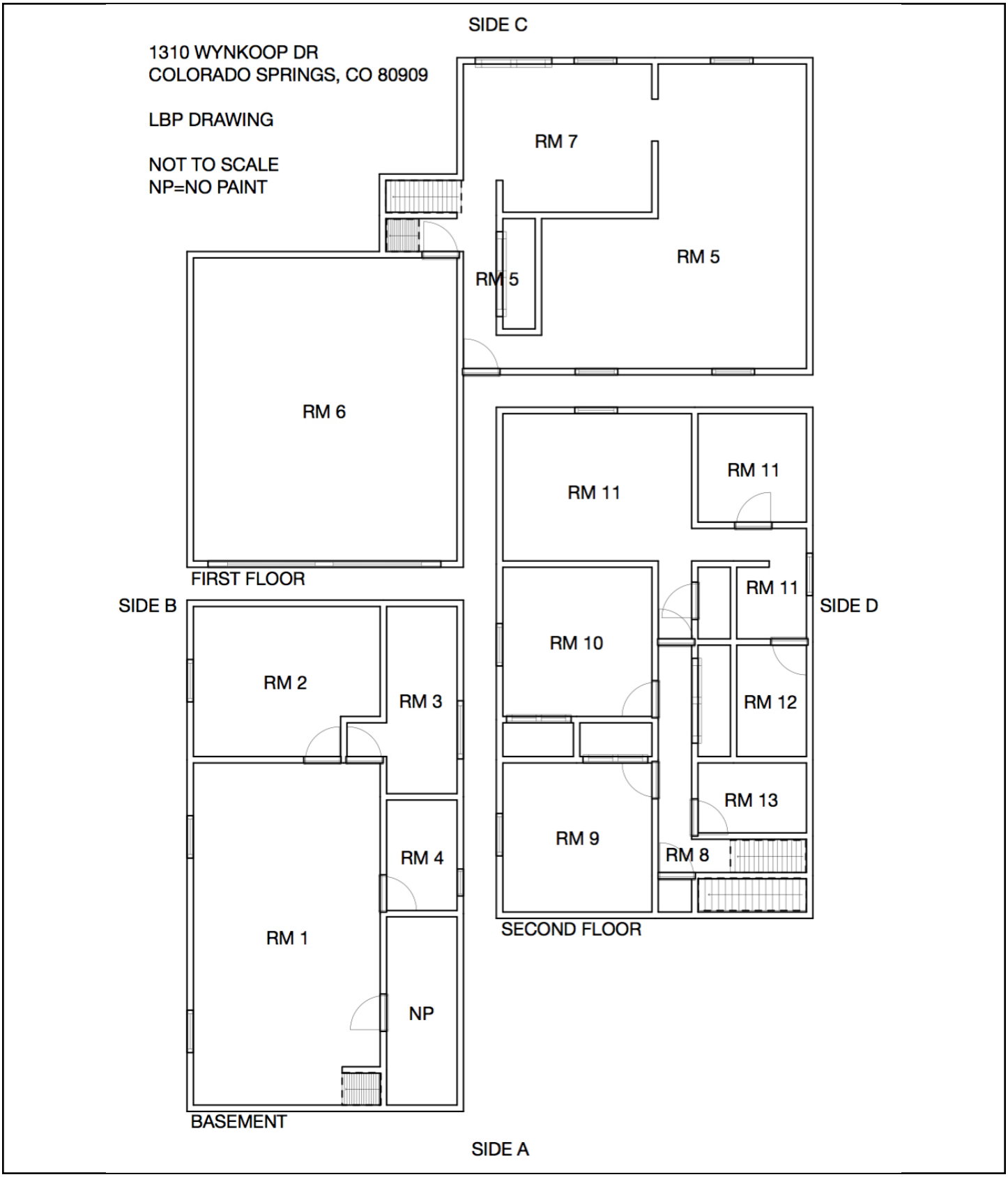
The results of this inspection are only applicable to the dwelling inspected on the date(s) indicated and further activities at the dwelling may alter the results.

Those surfaces that do not contain lead-based paint at or above the federal, state, or local standards may still pose a hazard if disturbed.

The Occupational Safety and Health Administration (OSHA) Lead in Construction Standard states that “negative” readings (i.e. those below the HUD/EPA definition of what constitutes LBP [1.0 mg/cm2]) do not relieve contractors from performing exposure assessments (personal air monitoring) on their employees per the OSHA Lead Standard, and should not be interpreted as lead free. Although a reading may indicate “negative”, airborne lead concentrations still may exceed the OSHA Action Level or the OSHA Permissible Exposure Limit (PEL) depending on the work activity.

Appendix A

Drawings / Floor Plans



Appendix B
XRF Results

Reading #	Component	Side	Substrate	Color	Room	Condition	Description	Floor	Results	XRF Results
130		CALIBRATE							Negative	.9
131		CALIBRATE							Negative	.9
132		CALIBRATE							Positive	1
133	DOOR JAMB	D	WOOD	WHITE	RM 1	POOR		FIRST	Negative	.03
134	DOOR CASING	D	WOOD	WHITE	RM 1	POOR		FIRST	Negative	.01
135	BASEBOARD	D	WOOD	WHITE	RM 1	POOR		FIRST	Negative	0
136	DOOR	D	WOOD	BLACK	RM 1	POOR		FIRST	Negative	.01
137	STRINGER	A	WOOD	WHITE	RM 1	POOR		FIRST	Negative	.03
138	CEILING		DRYWALL	WHITE	RM 1	POOR		FIRST	Negative	0
139	WALL	A	DRYWALL	WHITE	RM 1	POOR		FIRST	Negative	0
140	WALL	C	DRYWALL	WHITE	RM 1	POOR		FIRST	Negative	0
141	WALL	D	DRYWALL	WHITE	RM 1	POOR		FIRST	Negative	0
142	WALL	A	DRYWALL	WHITE	RM 2	POOR		FIRST	Negative	0
143	WALL	B	DRYWALL	WHITE	RM 2	POOR		FIRST	Negative	0
144	WALL	C	DRYWALL	WHITE	RM 2	POOR		FIRST	Negative	0
145	WALL	D	DRYWALL	WHITE	RM 2	POOR		FIRST	Negative	.01
146	CEILING		DRYWALL	WHITE	RM 2	POOR		FIRST	Negative	0
147	CLST TRIM	D	WOOD	WHITE	RM 2	POOR		FIRST	Negative	0
148	CLST SHELVE	D	WOOD	WHITE	RM 2	POOR		FIRST	Negative	0
149	BASEBOARD	D	WOOD	WHITE	RM 2	POOR		FIRST	Negative	0
150	DOOR	A	WOOD	WHITE	RM 2	POOR		FIRST	Negative	0
151	DOOR CASING	A	WOOD	WHITE	RM 2	POOR		FIRST	Negative	.01
152	DOOR JAMB	A	WOOD	WHITE	RM 2	POOR		FIRST	Negative	.02
153	DOOR JAMB	A	WOOD	WHITE	RM 3	POOR		FIRST	Negative	.01
154	DOOR CASING	A	WOOD	WHITE	RM 3	POOR		FIRST	Negative	.03
155	DOOR	A	WOOD	WHITE	RM 3	POOR		FIRST	Negative	.01
156	CABINET	A	WOOD	WHITE	RM 3	POOR		FIRST	Negative	0
157	DOOR	C	WOOD	WHITE	RM 3	POOR		FIRST	Negative	.01
158	DOOR CASING	C	WOOD	WHITE	RM 3	POOR		FIRST	Negative	.01
159	DOOR JAMB	C	WOOD	WHITE	RM 3	POOR		FIRST	Negative	.02
160	FLOOR		CONCRETE	WHITE	RM 3	INTACT		FIRST	Negative	0
161	CEILING		DRYWALL	WHITE	RM 3	POOR		FIRST	Negative	.02
162	WALL	A	DRYWALL	WHITE	RM 3	POOR		FIRST	Negative	.01
163	WALL	B	DRYWALL	WHITE	RM 3	POOR		FIRST	Negative	.02
164	WALL	C	DRYWALL	WHITE	RM 3	POOR		FIRST	Negative	.05
165	WALL	D	DRYWALL	WHITE	RM 3	POOR		FIRST	Negative	.08
166	WALL	A	DRYWALL	BLUE	RM 4	POOR		FIRST	Negative	.01
167	WALL	B	DRYWALL	WHITE	RM 4	POOR		FIRST	Negative	.09
168	WALL	C	DRYWALL	WHITE	RM 4	POOR		FIRST	Negative	.04
169	WALL	D	DRYWALL	WHITE	RM 4	POOR		FIRST	Negative	.02
170	CEILING		DRYWALL	WHITE	RM 4	POOR		FIRST	Negative	.01
171	FLOOR	C	CONCRETE	WHITE	RM 4	INTACT		FIRST	Negative	.01
172	CABINET	C	WOOD	WHITE	RM 4	POOR		FIRST	Negative	.01

Appendix B
XRF Results

Reading #	Component	Side	Substrate	Color	Room	Condition	Description	Floor	Results	XRF Results
173	SHELVES	A	WOOD	BLUE	RM 4	POOR		FIRST	Negative	.05
174	BASEBOARD	D	WOOD	GREEN	RM 4	POOR		FIRST	Negative	.07
175	DOOR	B	WOOD	WHITE	RM 4	POOR		FIRST	Negative	.03
176	DOOR JAMB	B	WOOD	WHITE	RM 4	POOR		FIRST	Negative	0
177	DOOR	B	WOOD	WHITE	RM 4	POOR		FIRST	Negative	.03
178	BASEBOARD	A	WOOD	WHITE	RM 5	POOR		SECOND	Negative	.04
179	CLST DOOR	D	METAL	WHITE	RM 5	POOR		SECOND	Negative	.02
180	CLST SHELVE	D	METAL	WHITE	RM 5	POOR		SECOND	Negative	.08
181	CLST TRIM	D	WOOD	WHITE	RM 5	POOR		SECOND	Negative	.04
182	STRINGER	B	WOOD	WHITE	RM 5	POOR		SECOND	Negative	.06
183	WALL CAP	B	WOOD	WHITE	RM 5	POOR		SECOND	Negative	0
184	DOOR CASING	A	WOOD	WHITE	RM 5	POOR		SECOND	Negative	.02
185	CEILING		DRYWALL	WHITE	RM 5	POOR		SECOND	Negative	0
186	WALL	A	DRYWALL	WHITE	RM 5	POOR		SECOND	Negative	0
187	WALL	B	DRYWALL	WHITE	RM 5	POOR		SECOND	Negative	.01
188	WALL	C	DRYWALL	WHITE	RM 5	POOR		SECOND	Negative	0
189	WALL	D	DRYWALL	WHITE	RM 5	POOR		SECOND	Negative	.01
190	WALL	C	DRYWALL	WHITE	RM 6	POOR		SECOND	Negative	0
191	WALL	D	DRYWALL	WHITE	RM 6	POOR		SECOND	Negative	0
192	CEILING		DRYWALL	WHITE	RM 6	POOR		SECOND	Negative	.01
193	DOOR CASING	C	WOOD	WHITE	RM 6	POOR		SECOND	Negative	0
194	DOOR JAMB	C	WOOD	WHITE	RM 6	POOR		SECOND	Negative	.02
195	DOOR	C	WOOD	VARNISH	RM 6	POOR		SECOND	Negative	.01
196	DOOR CASING	C	WOOD	WHITE	RM 7	POOR		SECOND	Negative	.05
197	BASEBOARD	B	WOOD	WHITE	RM 7	POOR		SECOND	Negative	0
198	CABINET	C	WOOD	VARNISH	RM 7	POOR		SECOND	Negative	0
199	CEILING		DRYWALL	WHITE	RM 7	POOR		SECOND	Negative	0
200	WALL	A	DRYWALL	WHITE	RM 7	POOR		SECOND	Negative	.02
201	WALL	B	DRYWALL	WHITE	RM 7	POOR		SECOND	Negative	.09
202	WALL	C	DRYWALL	WHITE	RM 7	POOR		SECOND	Negative	.01
203	WALL	D	DRYWALL	WHITE	RM 7	POOR		SECOND	Negative	.04
204	WALL	A	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	0
205	WALL	B	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	0
206	WALL	C	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	0
207	WALL	D	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	0
208	CEILING		DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	0
209	CLST DOOR	D	METAL	WHITE	RM 8	POOR		THIRD	Negative	.02
210	CLST SHELVE	D	WOOD	WHITE	RM 8	POOR		THIRD	Negative	.06
211	CLST TRIM	D	WOOD	WHITE	RM 8	POOR		THIRD	Negative	.07
212	CLST TRIM	A	WOOD	WHITE	RM 8	POOR		THIRD	Negative	.03
213	CLST SHELVE	A	WOOD	WHITE	RM 8	POOR		THIRD	Negative	.07
214	DOOR	A	WOOD	VARNISH	RM 8	POOR		THIRD	Negative	.01
215	RAILING	A	WOOD	VARNISH	RM 8	POOR		THIRD	Negative	0

Appendix B
XRF Results

Reading #	Component	Side	Substrate	Color	Room	Condition	Description	Floor	Results	XRF Results
216	CEILING		DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	0
217	WALL	A	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	.01
218	WALL	B	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	.04
219	WALL	C	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	.04
220	WALL	D	DRYWALL	WHITE	RM 8	POOR		THIRD	Negative	.04
221	WALL	A	DRYWALL	WHITE	RM 9	POOR		THIRD	Negative	0
222	WALL	B	DRYWALL	WHITE	RM 9	POOR		THIRD	Negative	0
223	WALL	C	DRYWALL	WHITE	RM 9	POOR		THIRD	Negative	.02
224	WALL	D	DRYWALL	WHITE	RM 9	POOR		THIRD	Negative	0
225	CEILING		DRYWALL	WHITE	RM 9	POOR		THIRD	Negative	0
226	BASEBOARD	C	WOOD	WHITE	RM 9	POOR		THIRD	Negative	.03
227	CLST SHELVE	C	WOOD	WHITE	RM 9	POOR		THIRD	Negative	0
228	CLST TRIM	C	WOOD	WHITE	RM 9	POOR		THIRD	Negative	0
229	DOOR JAMB	D	WOOD	WHITE	RM 9	POOR		THIRD	Negative	.02
230	DOOR CASING	D	WOOD	WHITE	RM 9	POOR		THIRD	Negative	.01
231	DOOR	D	WOOD	VARNISH	RM 9	POOR		THIRD	Negative	0
232	DOOR	D	WOOD	VARNISH	RM 10	POOR		THIRD	Negative	0
233	DOOR JAMB	D	WOOD	WHITE	RM 10	POOR		THIRD	Negative	.04
234	DOOR CASING	D	WOOD	WHITE	RM 10	POOR		THIRD	Negative	.01
235	BASEBOARD	D	WOOD	WHITE	RM 10	POOR		THIRD	Negative	.01
236	CLST SHELVE	A	WOOD	WHITE	RM 10	POOR		THIRD	Negative	.04
237	CLST TRIM	A	WOOD	WHITE	RM 10	POOR		THIRD	Negative	.01
238	CEILING		DRYWALL	WHITE	RM 10	POOR		THIRD	Negative	.01
239	WALL	A	DRYWALL	WHITE	RM 10	POOR		THIRD	Negative	0
240	WALL	A	DRYWALL	GREEN	RM 10	POOR		THIRD	Negative	0
241	WALL	B	DRYWALL	GREEN	RM 10	POOR		THIRD	Negative	0
242	WALL	C	DRYWALL	GREEN	RM 10	POOR		THIRD	Negative	0
243	WALL	D	DRYWALL	GREEN	RM 10	POOR		THIRD	Negative	.01
244	WALL	A	DRYWALL	PURPLE	RM 11	POOR		THIRD	Negative	.03
245	WALL	B	DRYWALL	PURPLE	RM 11	POOR		THIRD	Negative	0
246	WALL	C	DRYWALL	PURPLE	RM 11	POOR		THIRD	Negative	.01
247	WALL	D	DRYWALL	PURPLE	RM 11	POOR		THIRD	Negative	0
248	CEILING		DRYWALL	WHITE	RM 11	POOR		THIRD	Negative	0
249	BASEBOARD	A	WOOD	PURPLE	RM 11	POOR		THIRD	Negative	0
250	DOOR CASING	A	WOOD	PURPLE	RM 11	POOR		THIRD	Negative	.02
251	DOOR JAMB	A	WOOD	WHITE	RM 11	POOR		THIRD	Negative	.11
252	DOOR	A	WOOD	VARNISH	RM 11	POOR		THIRD	Negative	.01
253	CLST SHELVE	D	WOOD	VARNISH	RM 11	POOR		THIRD	Negative	.06
254	CLST TRIM	D	WOOD	VARNISH	RM 11	POOR		THIRD	Negative	.04
255	WALL	A	DRYWALL	WHITE	RM 11	POOR		THIRD	Negative	.04
256	WALL	B	DRYWALL	WHITE	RM 11	POOR		THIRD	Negative	.05
257	WALL	C	DRYWALL	WHITE	RM 11	POOR		THIRD	Negative	.05
258	WALL	D	DRYWALL	WHITE	RM 11	POOR		THIRD	Negative	.06

Appendix B

XRF Results

Reading #	Component	Side	Substrate	Color	Room	Condition	Description	Floor	Results	XRF Results
259	RAILING	D	WOOD	PURPLE	RM 11	POOR		THIRD	Negative	0
260	WALL CAP	D	WOOD	PURPLE	RM 11	POOR		THIRD	Negative	0
261	DOOR JAMB	A	WOOD	WHITE	RM 12	POOR		THIRD	Negative	.09
262	DOOR CASING	A	WOOD	WHITE	RM 12	POOR		THIRD	Negative	.01
263	DOOR	A	WOOD	WHITE	RM 12	POOR		THIRD	Negative	.04
264	DOOR	A	WOOD	VARNISH	RM 12	POOR		THIRD	Negative	.01
265	BASEBOARD	A	WOOD	WHITE	RM 12	POOR		THIRD	Negative	.03
267	BASEBOARD	C	WOOD	WHITE	RM 12	POOR		THIRD	Negative	.01
268	SHWR WALL	A	CONCRETE	WHITE	RM 12	INTACT		THIRD	Positive	4
269	CEILING		DRYWALL	OFF WHITE	RM 12	POOR		THIRD	Negative	0
270	WALL	A	DRYWALL	OFF WHITE	RM 12	POOR		THIRD	Negative	.02
271	WALL	B	DRYWALL	OFF WHITE	RM 12	POOR		THIRD	Negative	.08
272	WALL	C	DRYWALL	BLUE	RM 12	POOR		THIRD	Negative	.01
273	WALL	D	DRYWALL	OFF WHITE	RM 12	POOR		THIRD	Negative	.04
274	WALL	A	DRYWALL	OFF WHITE	RM 13	POOR		THIRD	Negative	.1
275	WALL	A	DRYWALL	PINK	RM 13	POOR		THIRD	Negative	.02
276	WALL	B	DRYWALL	BLUE	RM 13	POOR		THIRD	Negative	.07
277	WALL	C	DRYWALL	OFF WHITE	RM 13	POOR		THIRD	Negative	.02
278	WALL	D	DRYWALL	OFF WHITE	RM 13	POOR		THIRD	Negative	.01
279	CEILING		DRYWALL	OFF WHITE	RM 13	POOR		THIRD	Negative	.01
280	SHWR WALL	D	CONCRETE	WHITE	RM 13	INTACT		THIRD	Positive	3.4
281	CABINET	C	WOOD	VARNISH	RM 13	POOR		THIRD	Negative	.03
282	DOOR	B	WOOD	VARNISH	RM 13	POOR		THIRD	Negative	.01
283	BASEBOARD	B	WOOD	WHITE	RM 13	POOR		THIRD	Negative	.02
284	DOOR CASING	B	WOOD	WHITE	RM 13	POOR		THIRD	Negative	-.06
285	DOOR JAMB	B	WOOD	WHITE	RM 13	POOR		THIRD	Negative	.01
286	DOOR	A	WOOD	VARNISH	EXTERIOR	POOR			Negative	.08
287	DOOR JAMB	A	WOOD	BEIGE	EXTERIOR	POOR			Negative	0
288	DOOR CASING	A	WOOD	WHITE	EXTERIOR	POOR			Negative	0
289	CEILING	A	WOOD	WHITE	EXTERIOR	POOR			Negative	.19
290	SIDING	A	WOOD	WHITE	EXTERIOR	POOR			Negative	.24
291	FREEZE BOARD	A	WOOD	GREEN	EXTERIOR	POOR			Negative	.3
292	TRIM	A	WOOD	GREEN	EXTERIOR	POOR			Negative	.5
293	TRIM	A	WOOD	WHITE	EXTERIOR	POOR			Negative	.4
294	COLUMN	A	WOOD	GREEN	EXTERIOR	POOR			Negative	.01
295	RAILING	A	WOOD	GREEN	EXTERIOR	POOR			Negative	0
296	FASCIA	A	WOOD	GREEN	EXTERIOR	POOR			Negative	.08
297	GUTTER	A	METAL	GREEN	EXTERIOR	POOR			Negative	0
298	DWN SPOUT	A	METAL	GREEN	EXTERIOR	POOR			Negative	.02
299	GAR DR JAMB	A	WOOD	GREEN	EXTERIOR	POOR			Negative	.01
300	GAR DR CASING	A	WOOD	GREEN	EXTERIOR	POOR			Negative	.01
301	GAR DR	A	METAL	WHITE	EXTERIOR	POOR			Negative	0
302	BEAM	A	METAL	GREEN	EXTERIOR	POOR			Negative	.01

Appendix B

XRF Results

Reading #	Component	Side	Substrate	Color	Room	Condition	Description	Floor	Results	XRF Results
303	SIDING	A	WOOD	WHITE	EXTERIOR	POOR			Negative	.16
304	SIDING	B	WOOD	WHITE	EXTERIOR	POOR			Negative	.15
305	SOFFIT	B	WOOD	WHITE	EXTERIOR	POOR			Negative	.4
306	SOFFIT	A	WOOD	WHITE	EXTERIOR	POOR			Negative	.11
307	FREEZE BOARD	B	WOOD	GREEN	EXTERIOR	POOR			Negative	.18
308	TRIM	B	WOOD	GREEN	EXTERIOR	POOR			Negative	.19
309	FASCIA	B	WOOD	GREEN	EXTERIOR	POOR			Negative	.2
310	DWN SPOUT	B	METAL	GREEN	EXTERIOR	POOR			Negative	.18
311	GUTTER	B	METAL	GREEN	EXTERIOR	POOR			Negative	.21
312	DWN SPOUT	B	METAL	WHITE	EXTERIOR	POOR			Negative	.17
313	WNDW CASING	B	WOOD	GREEN	EXTERIOR	POOR			Negative	.21
314	FENCE	B	WOOD	GREEN	EXTERIOR	POOR			Negative	.5
316	FASCIA	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.5
317	FREEZE BOARD	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.4
318	FREEZE BOARD	C	WOOD	WHITE	EXTERIOR	POOR			Negative	.1
319	TRIM	C	WOOD	WHITE	EXTERIOR	POOR			Negative	.16
320	TRIM	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.3
321	TRIM	C	WOOD	WHITE	EXTERIOR	POOR			Negative	.26
322	SIDING	C	WOOD	WHITE	EXTERIOR	POOR			Negative	.07
323	SOFFIT	C	WOOD	WHITE	EXTERIOR	POOR			Negative	.06
324	VENT	C	METAL	WHITE	EXTERIOR	POOR			Negative	.1
325	COLUMN	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.27
326	STUD	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.18
327	BEAM	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.4
328	CEILING	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.12
329	GUTTER	C	METAL	GREEN	EXTERIOR	POOR			Negative	.09
330	DWN SPOUT	C	METAL	GREEN	EXTERIOR	POOR			Negative	.26
331	DWN SPOUT	C	METAL	WHITE	EXTERIOR	POOR			Negative	.4
333	DOOR CASING	C	WOOD	GREEN	EXTERIOR	POOR			Negative	.3
334	TRIM	D	WOOD	GREEN	EXTERIOR	POOR			Negative	.23
335	TRIM	D	WOOD	WHITE	EXTERIOR	POOR			Negative	.4
336	SOFFIT	D	WOOD	WHITE	EXTERIOR	POOR			Negative	.24
337	FREEZE BOARD	D	WOOD	WHITE	EXTERIOR	POOR			Negative	.4
338	SIDING	D	WOOD	WHITE	EXTERIOR	POOR			Negative	.21
339	BEAM	D	WOOD	GREEN	EXTERIOR	POOR			Negative	.26
340	FASCIA	D	WOOD	GREEN	EXTERIOR	POOR			Negative	.3
341	DWN SPOUT	D	METAL	GREEN	EXTERIOR	POOR			Negative	.25
342		CALIBRATE							Negative	.9
343		CALIBRATE							Negative	.9
344		CALIBRATE							Positive	1

Appendix C
XRF Performance Characteristic Sheets (PCS)

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

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/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 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 <u>not</u> 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)						
	All Data			Median for laboratory-measured lead levels (mg/cm^2)		
Substrate	25th Percentile	Median	75th 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*.

Appendix D
Certifications

Colorado Department
of Public Health
and Environment

LEAD-BASED PAINT CERTIFICATION*

This certifies that

Matt Hothem

Certification No.: 17807

has met the requirements of 25-7-1104, C.R.S. and Air Quality Control Commission Regulation No. 19, and is hereby certified by the state of Colorado in the following discipline:

Inspector/Risk Assessor*

Issued: **December 28, 2013**

Expires: **December 28, 2016**

** This certificate is valid only with the possession of a valid lead-based paint training certificate in the discipline specified above, issued by either a Colorado approved training provider, an EPA approved training provider, or a training provider approved by another EPA authorized program.*

Authorized APCD Representative

SEAL

Colorado Department
of Public Health
and Environment

Lead Evaluation Firm Certificate

This certifies that

Colorado Environmental Solutions

LEF No.: 17808

has met the requirements of 25-7-1104, C.R.S. and Air Quality Control Commission Regulation No. 19, and is hereby certified by the state of Colorado to perform lead-based paint evaluation activities in the state of Colorado.

Issued: **December 20, 2014**

Expires: **December 20, 2015**

Authorized APCD Representative

SEAL

Appendix E
Glossary

Abatement- A measure or set of measures designed to permanently eliminate lead-based paint hazards or lead-based paint. Abatement strategies include the removal of lead-based paint, enclosure, encapsulation, replacement of building components coated with lead-based paint, removal of lead-contaminated dust, and removal of lead-contaminated soil or overlaying of soil with a durable covering such as asphalt (grass and sod are considered interim control measures). All of these strategies require preparation; cleanup; waste disposal; post-abatement clearance testing; recordkeeping; and, if applicable, monitoring. See also Complete Abatement and Interim Controls.

Accessible surface- Any protruding interior or exterior surface, such as an interior window sill, that a young child can mouth or chew.

Accreditation- A formal recognition that an organization, such as a laboratory, is competent to carry out specific tasks or types of tests.

Accredited laboratory- A laboratory that has been evaluated and approved by the National Lead Laboratory Accreditation Program (NLLAP) to perform lead measurement or analysis, usually over a specified period of time.

Apron- A trim board that is installed beneath a window sill

Area wells- Corrugated metal or concrete barrier walls installed around a basement window to hold back the earth

Attic access- An opening that is placed in the drywalled ceiling of a home providing access to the attic.

Attic Ventilators- In houses, screened openings provided to ventilate an attic space

Backing- Frame lumber installed between the wall studs to give additional support for drywall or an interior trim related item, such as handrail brackets, cabinets, and towel bars. In this way, items are screwed and mounted into solid wood rather than weak drywall that may allow the item to break loose from the wall.

Carpet backing holds the pile fabric in place.

Balusters- Vertical members in a railing used between a top rail and bottom rail or the stair treads. Sometimes referred to as 'pickets' or 'spindles'.

Balustrade - The rail posts and vertical balusters along the edge of a stairway or elevated walkway.

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

Barge board - A decorative board covering the projecting rafter (fly rafter) of the gable end. At the cornice, this member is a fascia board.

Base or baseboard - A trim board placed against the wall around the room next to the floor.

Basement window inserts - The window frame and glass unit that is installed in the window buck.

Base shoe - Molding used next to the floor on interior baseboard. Sometimes called a carpet strip.

Bat - A half-brick.

Batt - A section of fiber-glass or rock-wool insulation measuring 15 or 23 inches wide by four to eight feet long and various thickness'. Sometimes "faced" (meaning to have a paper covering on one side) or "unfaced" (without paper).

Batten - Narrow strips of wood used to cover joints or as decorative vertical members over plywood or wide boards.

Bay window - Any window space projecting outward from the walls of a building either square or polygonal in plan.

Beam - A structural member transversely supporting a load. A structural member carrying building loads (weight) from one support to another. Sometimes called a "girder".

Bearing wall - A wall that supports any vertical load in addition to its own weight.

Bearing header - (a) A beam placed perpendicular to joists and to which joists are nailed in framing for a chimney, stairway, or other opening. (b) A wood lintel. (c) The horizontal structural member over an opening (for example over a door or window).
Bi-fold door - Doors that are hinged in the middle for opening in a smaller area than standard swing doors. Often used for closet doors.
Bi-pass doors - Doors that slide by each other and commonly used as closet doors.
Blocking - Small wood pieces to brace framing members or to provide a nailing base for gypsum board or paneling.
Blood lead threshold - Any blood level greater than or equal to 10 ug/dL as defined by the Centers for Disease Control and Prevention. See also Elevated Blood Lead level (EBL) child.
Brace - An inclined piece of framing lumber applied to wall or floor to strengthen the structure. Often used on walls as temporary bracing until framing has been completed.
Breaker panel - The electrical box that distributes electric power entering the home to each branch circuit (each plug and switch) and composed of circuit breakers.
Brick mold -Trim used around an exterior door jamb that siding butts to.
Brick tie - A small, corrugated metal strip @ 1" X 6"- 8" long nailed to wall sheeting or studs. They are inserted into the grout mortar joint of the veneer brick, and holds the veneer wall to the sheeted wall behind it.
Brick veneer - A vertical facing of brick laid against and fastened to sheathing of a framed wall or tile wall construction.
Building component - Any element of a building that may be painted or have dust on its surface, e.g. walls, stair treads, floors, railings, doors, window sills, etc.
By fold door - Doors that are hinged in the middle for opening in a smaller area than standard swing doors. Often used for closet doors.
By pass doors - Doors that slide by each other and commonly used as closet doors.
Cantilever - An overhang. Where one floor extends beyond and over a foundation wall. For example at a fireplace location or bay window cantilever. Normally, not extending over 2 feet.
Cap - The upper member of a column, pilaster, door cornice, molding, or fireplace.
Cap flashing - The portion of the flashing attached to a vertical surface to prevent water from migrating behind the base flashing.
Casement - Frames of wood or metal enclosing part (or all) of a window sash. May be opened by means of hinges affixed to the vertical edges.
Casement Window - A window with hinges on one of the vertical sides and swings open like a normal door
Casing - Wood trim molding installed around a door or window opening.
Celotex ™ - Black fibrous board that is used as exterior sheathing.
Ceiling joist - One of a series of parallel framing members used to support ceiling loads and supported in turn by larger beams, girders or bearing walls. Also called roof joists.
Cement - The gray powder that is the "glue" in concrete. Portland cement. Also, any adhesive.
Ceramic tile - A man-made or machine-made clay tile used to finish a floor or wall. Generally used in bathtub and shower enclosures and on counter tops.
Certification - The process of testing and evaluating against certain specifications the competence of a person, organization, or other entity in performing a function or service, usually for a specified period of time.
Certified - The designation for contractors who have completed training and other requirements to allow them to safely undertake risk assessments, inspections, or abatement work. Risk assessors, inspectors, and abatement contractors should be certified by the appropriate Local, State or Federal agency.
Chair rail - Interior trim material installed about 3-4 feet up the wall, horizontally.
Chalking - The photo-oxidation of paint binders – usually due to weathering – that causes a powder to form on the film surface.
Chase - A framed enclosed space around a flue pipe or a channel in a wall, or through a ceiling for something to lie in or pass through.

Chewed surface - Any painted surface that shows evidence of having been chewed or mouthed by a young child. A chewed surface is usually a protruding, horizontal part of a building, such as an interior window sill. See also Accessible surface.
Chip Board - A manufactured wood panel made out of 1"- 2" wood chips and glue. Often used as a substitute for plywood in the exterior wall and roof sheathing. Also called OSB (Oriented Strand Board) or wafer board.
Cleaning - The process of using a HEPA vacuum and wet cleaning agents to remove leaded dust; the process includes the removal of bulk debris from the work area. OSHA prohibits the use of compressed air to clean lead-contaminated dust from a surface.
Clearance examination - Visual examination and collection of environmental samples by an inspector or risk assessor and analysis by an accredited laboratory upon completion of an abatement project, interim control interventions, or maintenance job that disturbs lead-based paint (or paint suspected of being lead-based). The clearance examination is performed to ensure that lead exposure levels do not exceed standards established by the EPA administrator pursuant to Title IV of the Toxic Substances Control Act, and that any cleaning following such work adequately meets those standards.
Clearance examiner - A person who conducts clearance examinations following lead-based paint hazard control and cleanup work, usually a certified risk assessor or a certified inspector.
Code of Federal Regulations (CFR) - The codification of the regulations of Federal agencies.
Column - A vertical structural compression member, which supports loads.
Complete abatement - Abatement of all lead-based paint inside and outside a dwelling or building and reduction of any lead-contaminated dust or soil hazards. All of these strategies require preparation; cleanup; waste disposal; post-abatement clearance testing; recordkeeping; and, if applicable, re-inspection and on-going monitoring. See also Abatement.
Concrete - The mixture of Portland cement, sand, gravel, and water. Used to make garage and basement floors, sidewalks, patios, foundation walls, etc. It is commonly reinforced with steel rods (rebar) or wire screening (mesh).
Concrete block - A hollow concrete 'brick' often 8" x 8" x 16" in size.
Concrete board - A panel made out of concrete and fiberglass usually used as a tile backing material.
Conduit, electrical - A pipe, usually metal, in which wire is installed.
Containment - A process to protect workers and the environment by controlling exposures to the lead-contaminated dust and debris created during abatement.
Corbel - The triangular, decorative and supporting member that holds a mantel or horizontal shelf.
Corner bead - A strip of formed sheet metal placed on outside corners of drywall before applying drywall 'mud'.
Corner boards - Used as trim for the external corners of a house or other frame structure against which the ends of the siding are finished.
Corner braces - Diagonal braces at the corners of the framed structure designed to stiffen and strengthen the wall.
Cornice- Overhang of a pitched roof, usually consisting of a fascia board, a soffit and appropriate trim moldings.
Counter flashing - A metal flashing usually used on chimneys at the roofline to cover shingle flashing and used to prevent moisture entry.
Cove molding - A molding with a concave face used as trim or to finish interior corners.
Crawl space - A shallow space below the living quarters of a house, normally enclosed by the foundation wall and having a dirt floor.
Cross Tee - Short metal "**T**" beam used in suspended ceiling systems to bridge the spaces between the main beams.
Crown molding - A molding used on cornice or wherever an interior angle is to be covered, especially at the roof and wall corner.
Damper - A metal "door" placed within the fireplace chimney. Normally closed when the fireplace

is not in use.
Deteriorated lead-based paint - Any lead-based paint coating on a damaged or deteriorated surface or fixture, or any interior or exterior lead-based paint that is peeling, chipping, blistering, flaking, worn, chalking, alligatoring, cracking, or otherwise becoming separated from the substrate.
Doorjamb, interior - The surrounding case into which and out of which a door closes and opens. It consists of two upright pieces, called side jambs, and a horizontal head jamb. These 3 jambs have the "door stop" installed on them.
Door stop - The wooden style that the door slab will rest upon when it's in a closed position.
Dormer - An opening in a sloping roof, the framing of which projects out to form a vertical wall suitable for windows or other openings.
Downspout - A pipe, usually of metal, for carrying rainwater down from the roof's horizontal gutters.
Drip cap - A molding or metal flashing placed on the exterior topside of a door or window frame to cause water to drip beyond the outside of the frame.
Drywall (or Gypsum Wallboard (GWB), Sheet rock or Plasterboard) - Wall board or gypsum - manufactured panels made out of gypsum plaster and encased in a thin cardboard. Usually 1/2" thick and 4' x 8' or 4' x 12' in size. The panels are nailed or screwed onto the framing and the joints are taped and covered with a 'joint compound'. 'Green board' type drywall has a greater resistance to moisture than regular (white) plasterboard and is used in bathrooms and other "wet areas".
Ducts - The heating system. Usually round or rectangular metal pipes installed for distributing warm (or cold) air from the furnace to rooms in the home. Also a tunnel made of galvanized metal or rigid fiberglass, which carries air from the heater or ventilation opening to the rooms in a building.
Dura board, Dura rock - A panel made out of concrete and fiberglass usually used as a ceramic tile backing material. Commonly used on bathtub decks. Sometimes called Wonder board
Dust removal - A form of interim control that involves initial cleaning followed by periodic monitoring and re-cleaning, as needed. Depending on the severity of lead-based paint hazards, dust removal may be the primary activity or just one element of a broader control effort.
Eaves - The horizontal exterior roof overhang.
Elevated Blood Lead level (EBL) child - A child who has a blood level greater than or equal to 20 ug/dL or a persistent 15 ug/dL. See also Blood lead threshold.
Encapsulation - Any covering or coating that acts as a barrier between lead-based paint and the environment, the durability of which relies on adhesion and the integrity of the existing bonds between multiple layers of paint and between the paint and the substrate. See also Enclosure.
Enclosure - The use of rigid, durable construction materials that are mechanically fastened to the substrate to act as a barrier between the lead-based paint and the environment.
Escutcheon - An ornamental plate that fits around a pipe extending through a wall or floor to hide the cut out hole
Inspection - Risk assessment, paint inspection, re-inspection, investigation, clearance examination, or risk assessment screen.
Exterior work area - For lead hazard control work, the exterior work area includes any exterior building components, such as a porch or stairway; the safety perimeter; and access barriers.
Facing brick - The brick used and exposed on the outside of a wall. Usually these have a finished texture.
Fascia - Horizontal boards attached to rafter/truss ends at the eaves and along gables. Roof drain gutters are attached to the fascia.
Flue - Large pipe through which fumes escape from a gas water heater, furnace, or fireplace.
Friction surface - Any interior or exterior surface, such as a window or stair tread, subject to abrasion or friction.
Gable - The end, upper, triangular area of a home, beneath the roof.
Gyp board - Drywall. Wall board or gypsum - A panel (normally 4' X 8', 10', 12', or 16') made with

a core of Gypsum (chalk-like) rock, which covers interior walls and ceilings.
Header - (a) A beam placed perpendicular to joists and to which joists are nailed in framing for a chimney, stairway, or other opening. (b) A wood lintel. (c) The horizontal structural member over an opening (for example over a door or window).
Hearth - The fireproof area directly in front of a fireplace. The inner or outer floor of a fireplace usually made of brick, tile, or stone.
Hip - A roof with four sloping sides. The external angle formed by the meeting of two sloping sides of a roof.
Hip roof - A roof that rises by inclined planes from all four sides of a building.
H V A C - An abbreviation for **H**eat, **V**entilation, and **A**ir **C**onditioning
Impact surface - An interior or exterior surface (such as surfaces on doors) subject to damage by repeated impact or contact.
Inspection (of paint) - A surface-by-surface investigation to determine the presence of lead-based paint (in some cases including dust and soil sampling) and a report of the results.
Insulation board, rigid - A structural building board made of coarse wood or cane fiber in 1/2- and
25/32-inch thickness. It can be obtained in various size sheets and densities.
Interim controls - A set of measures designed to temporarily reduce human exposure or possible exposure to lead-based paint hazards. Such measures include specialized cleaning, repairs, maintenance, painting, temporary containment, and management and resident education programs. Monitoring, conducted by owners, and re-inspections, conducted by professionals, are integral elements of interim control. Interim controls include dust removal; paint film stabilization; treatment of friction and impact surfaces; installation of soil coverings, such as grass or sod; and land-use controls. See also Monitoring, Re-inspection, and Abatement.
Interior window sill - The portion of the horizontal window ledge that protrudes into the interior of the room, adjacent to the window sash when the window is closed; often called the window stool.
Jamb - The side and head lining of a doorway, window, or other opening. Includes studs as well as the frame and trim.
Joint - The location between the touching surfaces of two members or components joined and held together by nails, glue, cement, mortar, or other means.
Joist - Wooden 2 X 8's, 10's, or 12's that run parallel to one another and support a floor or ceiling, and supported in turn by larger beams, girders, or bearing walls
Laminated shingles - Shingles that have added dimensionality because of extra layers or tabs, giving a shake-like appearance. May also be called "architectural shingles" or "three-dimensional shingles."
Lath - A building material of narrow wood, metal, gypsum, or insulating board that is fastened to the frame of a building to act as a base for plaster, shingles, or tiles.
Lattice - An open framework of criss-crossed wood or metal strips that form regular, patterned spaces.
Lead - Lead includes metallic lead and inorganic and organic compounds of lead.
Lead-based paint - Any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm2 as measured by XRF or laboratory analysis, or 0.5 percent by weight (5000 ug/g, 5000 ppm, or 5000 mg/kg) as measured by laboratory analysis.
Lead-based paint hazard - A condition in which exposure to lead from lead-contaminated dust, lead contaminated soil, or deteriorated lead-based paint would have an adverse effect on human health (as established by the EPA Administrator under Title IV of the Toxic Substances Control Act). Lead-based paint hazards include, for example, deteriorated lead-based paint, leaded dust levels above applicable standards, and bare leaded soil above applicable standards.
Lead-based paint hazard control - Activities to control and eliminate lead-based paint hazards, including interim controls, abatement, and complete abatement.
Lead-contaminated dust - Surface dust in residences that contains an area or mass concentration of lead in excess of the standard established by the EPA Administrator, pursuant to Title IV of the Toxic Substances Control Act. Until the EPA standards are set, the HUD-

recommended clearance and risk assessment standards for leaded dust are 100 ug/ft2 on floors, 500 ug/ft2 on interior window sills, and 800 ug/ft2 on window troughs. The recommended standard for lead hazard screens for floors is 50 ug/ft2 and for window troughs is 400 ug/ft2.
Lead-contaminated soil - Bare soil on residential property that contains lead in excess of the standard established by the EPA Administrator, pursuant to Title IV of the Toxic Substances Control Act. The HUD recommended standard and interim EPA guidance is 400 ug/g for high contact play areas and 2,000 ug/g in other bare areas of the yard. Soil contaminated with lead at levels greater than or equal to 5,000 ug/g should be abated by removal or paving.
Lead-free dwelling - A lead-free dwelling contains no lead-based paint and has interior dust and exterior soil lead levels below the applicable HUD and EPA standards.
Licensed - Holding a valid license or certification issued by EPA or by an EPA-approved State program pursuant to Title IV of the Toxic Substances Control Act. The license is based on certification for lead-based paint hazard control work. See also Certified.
Louver- A vented opening into the home that has a series of horizontal slats and arranged to permit ventilation but to exclude rain, snow, light, insects, or other living creatures.
Maintenance - Work intended to maintain adequate living conditions in a dwelling, which has the potential to disturb lead-based paint or paint that is suspected of being lead-based.
Mantel - The shelf above a fireplace opening. Also used in referring to the decorative trim around a fireplace opening.
Masonry - Stone, brick, concrete, hollow-tile, concrete block, or other similar building units or materials. Normally bonded together with mortar to form a wall.
Mastic - A pasty material used as a cement (as for setting tile) or a protective coating (as for thermal insulation or waterproofing)
Mg - Milligram; 1/1,1000 of a gram.
Microgram - see ug.
Milligram - see Mg.
Molding - A wood strip having an engraved, decorative surface.
Monitoring- Surveillance to determine (1) that known or suspected lead-based paint is not deteriorating; (2) that lead-based paint hazard controls, such as paint stabilization, enclosure, or encapsulation have not failed, (3) that structural problems do not threaten the integrity of hazard controls or of known or suspected lead-based paint, and (4) that dust lead levels have not risen above applicable levels.
Mortar - A mixture of cement (or lime) with sand and water used in masonry work.
Mullion - A vertical divider in the frame between windows, doors, or other openings.
Muntin - A small member, which divides the glass or openings of sash or doors.
Natural finish - A transparent finish, which does not seriously alter the original color or grain of the natural wood. Natural finishes are usually provided by sealers, oils, varnishes, water repellent preservatives, and other similar materials.
Newel post - The large starting post to which the end of a stair guard railing or balustrade is fastened.
Oriented Strand Board or OSB - A manufactured 4' X 8' wood panel made out of 1"- 2" wood chips and glue. Often used as a substitute for plywood.
Overhang - Outward projecting eave-soffit area of a roof; the part of the roof that hangs out or over the outside wall. See also Cornice.
Paint film stabilization - The process of wet scraping, priming, and repainting surfaces coated with deteriorated lead-based paint; paint film stabilization includes cleanup and clearance.
Paint removal - An abatement strategy that entails the removal of lead-based paint from surfaces.
For lead-hazard control work, this can mean using chemicals, heat guns below 1,100 ‘F, and certain contained abrasive methods. Open-flame burning, open abrasive blasting, and extensive dry scraping are prohibited paint removal methods.
Panel - A thin flat piece of wood, plywood, or similar material, framed by stiles and rails as in a door (or cabinet door), or fitted into grooves of thicker material with molded edges for decorative

wall treatment.
Parting stop or strip - A small wood piece used in the side and head jambs of double hung windows to separate the upper sash from the lower sash.
Particle board - Plywood substitute made of course sawdust that is mixed with resin and pressed into sheets. Used for closet shelving, floor underlayment, stair treads, etc.
Partition - A wall that subdivides spaces within any story of a building or room.
Plenum - The main hot air supply duct leading from a furnace.
Plywood - A panel (normally 4' X 8') of wood made of three or more layers of veneer, compressed and joined with glue, and usually laid with the grain of adjoining plies at right angles to give the sheet strength.
Portland cement - Cement made by heating clay and crushed limestone into a brick and then grinding to a pulverized powder state.
Pressure-treated wood - Lumber that has been saturated with a preservative.
Quarry tile - A man-made or machine-made clay tile used to finish a floor or wall. Generally 6" X 6" X 1/4" thick.
Quarter round - A small trim molding that has the cross section of a quarter circle.
Rafter - Lumber used to support the roof sheeting and roof loads. Generally, 2 X 10's and 2 X 12's are used. The rafters of a flat roof are sometimes called roof joists.
Rake fascia - The vertical face of the sloping end of a roof eave.
Re-inspection - In lead hazard control work, the combination of a visual assessment and collection of environmental samples performed by a certified risk assessor to determine if a previously implemented lead-based paint hazard control measure is still effective and if the dwelling remains lead-safe.
Register - A grill placed over a heating duct or cold air return.
Renovation - Work that involves construction and/or home or building improvement measures such as window replacement, weatherization, remodeling, and repainting.
Replacement - A strategy of abatement that entails the removal of building components coated with lead-based paint (such as windows, doors, and trim) and the installation of new components free of lead-based paint.
Retaining wall - A structure that holds back a slope and prevents erosion.
Riser - Each of the vertical boards closing the spaces between the treads of stairways.
Risk assessment - An onsite investigation of a residential dwelling to discover any lead-based paint hazard. Risk assessments include an investigation of the age, history, management, and maintenance of the dwelling, and the number of children under age 6 and women of child-bearing age who are residents; a visual assessment; limited environmental sampling (i.e., collection of dust wipe samples, soil samples, and deteriorated paint samples); and preparation of a report identifying acceptable abatement and interim control strategies based on specific conditions.
Risk assessor - A certified individual who has completed training with an accredited training program and who has been certified to (1) perform risk assessments, (2) identify acceptable abatement and interim control strategies for reducing identified lead-based paint hazards, (3) perform clearance testing and re-inspections, and (4) document the successful completion of lead-based paint hazard control activities.
Shake - A wood roofing material, normally cedar or redwood. Produced by splitting a block of the wood along the grain line. Modern shakes are sometimes machine sawn on one side. See shingle.
Shed roof - A roof containing only one sloping plane.
Sheet rock - Drywall-Wall board or gypsum- A manufactured panel made out of gypsum plaster and encased in a thin cardboard. Usually 1/2" thick and 4' x 8' or 4' x 12' in size. The 'joint compound'. 'Green board' type drywall has a greater resistance to moisture than regular (white) plasterboard and is used in bathrooms and other "wet areas".
Shim - A small piece of scrap lumber or shingle, usually wedge shaped, which when forced behind a furring strip or framing member forces it into position. Also used when installing doors and placed between the door jamb legs and 2 X 4 door trimmers. Metal shims are wafer 1 1/2" X

2" sheet metal of various thickness' used to fill gaps in wood framing members, especially at bearing point locations.
Shingles - Roof covering of asphalt, asbestos, wood, tile, slate, or other material cut to stock lengths, widths, and thicknesses.
Shingles, siding - Various kinds of shingles, used over sheathing for exterior wall covering of a structure.
Shutter - Usually lightweight louvered decorative frames in the form of doors located on the sides of a window. Some shutters are made to close over the window for protection.
Siding - The finished exterior covering of the outside walls of a frame building.
Sill - (1) The 2 X 4 or 2 X 6 wood plate-framing member that lays flat against and bolted to the foundation wall (with anchor bolts) and upon which the floor joists are installed. Normally the sill plate is treated lumber. (2) The member forming the lower side of an opening, as a door sill or window sill.
Skylight - A more or less horizontal window located on the roof of a building.
Slab, concrete - Concrete pavement, i.e. driveways, garages, and basement floors.
Slab, door - A rectangular door without hinges or frame.
Soffit - The area below the eaves and overhangs. The underside where the roof overhangs the walls. Usually the underside of an overhanging cornice.
Stair landing - A platform between flights of stairs or at the termination of a flight of stairs. Often used when stairs change direction. Normally no less than 3 ft. X 3 ft. square.
Stile - An upright framing member in a panel door.
Stool - The flat molding fitted over the window sill between jambs and contacting the bottom rail of the lower sash.
Stops - Moldings along the inner edges of a door or window frame. Also valves used to shut off water to a fixture.
Storm sash or storm window - An extra window usually placed outside of an existing one, as additional protection against cold weather.
String, stringer - A timber or other support for cross members in floors or ceilings. In stairs, the supporting member for stair treads. Usually a 2 X 12 inch plank notched to receive the treads
Stucco - Refers to an outside plaster finish made with Portland cement as its base.
Stud- A vertical wood framing member, also referred to as a wall stud, attached to the horizontal sole plate below and the top plate above. Normally 2 X 4's or 2 X 6's, 8' long (sometimes 92 5/8"). One of a series of wood or metal vertical structural members placed as supporting elements in walls and partitions.
Subfloor - The framing components of a floor to include the sill plate, floor joists, and deck sheeting over which a finish floor is to be laid.
Substrate - A surface on which paint, varnish, or other coating has been applied or may be applied. Examples of substrates include wood, plaster, metal, and drywall.
Suspended ceiling - A ceiling system supported by hanging it from the overhead structural framing.
Terra cotta - A ceramic material molded into masonry units.
Testing combination - A unique surface to be tested that is characterized by the room equivalent, component, and substrate.
Test location - A specific area on a testing combination where XRF instruments will test for lead-based paint.
Threshold - The bottom metal or wood plate of an exterior door frame. Generally they are adjustable to keep a tight fit with the door slab.
Tread - The walking surface board in a stairway on which the foot is placed.
Treated lumber - A wood product, which has been impregnated with chemical pesticides such as CCA (Chromate Copper Arsenate) to reduce damage from wood rot or insects. Often used for the portions of a structure, which are likely to be in contact with soil and water. Wood may also be treated with a fire retardant.
Treatment - In residential lead-based paint hazard control work, any method designed to control

lead-based paint hazards. Treatment includes interim controls, abatement, and removal.
Trim - Interior - The finish materials in a building, such as moldings applied around openings (window trim, door trim) or at the floor and ceiling of rooms (baseboard, cornice, and other moldings). Also, the physical work of installing interior doors and interior woodwork, to include all handrails, guardrails, stair way balustrades, mantles, light boxes, base, door casings, cabinets, countertops, shelves, window sills and aprons, etc. **Exterior** - The finish materials on the exterior a building, such as moldings applied around openings (window trim, door trim), siding, windows, exterior doors, attic vents, crawl space vents, shutters, etc. Also, the physical work of installing these materials.
Ug - Micrograms. The prefix micro means 1/1,000,000 (or one-millionth); a microgram is 1/1,000,000 of a gram and 1/1,000 or a milligram.
Veneer - Extremely thin sheets of wood. Also a thin slice of wood, brick or stone covering a framed wall.
Vent - A pipe or duct, which allows the flow of air and gasses to the outside. Also, another word for the moving glass part of a window sash, i.e. window vent.
Wafer board - A manufactured wood panel made out of 1"- 2" wood chips and glue. Often used as a substitute for plywood in the exterior wall and roof sheathing.
Water board - Water resistant drywall used in a tub or shower location. Normally green or blue colored
Window frame - The stationary part of a window unit; window sash fits into the window frame.
Window sash - The operating or movable part of a window; the sash is made of window panes and their border.
Window sill - See Interior window sill.
Window trough - For a typical double-hung window, the portion of the exterior window sill between the exterior window sill between the interior window sill (or stool) and the frame of the storm window. If there is no storm window, the window trough is the area that receives both the upper and lower window troughs when they are both lowered. Sometimes inaccurately called the window “well.” See also Window well.
Window well - The space that provides exterior access and/or light to a window that is below grade, i.e., below the level of the surrounding earth or pavement.
XRF analyzer - An instrument that determines lead concentration in milligrams per square centimeter (mg/cm2) using the principle of x-ray fluorescence (XRF). For lead-based paint inspections, the term XRF analyzer only refers to portable instruments manufactured to analyze paint, and does not refer to laboratory-grade units or portable instruments designed to analyze soil.

Building component terms from www.HomeBuildingManual.com and the Housing and Urban Development (HUD) Guidelines Chapter 7 (revised 1997).