

County Letterhead

Date: Date report written

Environmental Investigation for Lead Poisoning Hazards

Investigation Date:

Investigation Date(s)

Address Investigated:

Property Street
Property City, State Zip

Property Owner:

Property Owner Name
Property Owner Mailing Address
Property Owner City, State

Year Built:

Year

Investigators:

Name, REHS
Children's Environmental Health
NC DHHS Environmental Health Section

EHS Name, REHS
EHS Job Title
Department/District Name

Background:

This is a single-family home constructed in 1925 according to the ____ County Tax Office. The home is in poor structural condition and exhibits peeling interior and exterior paint. Water damage was noted throughout the interior and has caused components to deteriorate which need repair. The back-porch windows are not painted and are made from aluminum. Most of the window components have been scraped and repainted. Windows in the living room appear to be painted shut. According to the tenant, the house was repainted two years ago by the landlord. The basement of the home was padlocked and inaccessible during the investigation.

Purpose of Investigation

An environmental investigation was conducted to determine the presence of lead poisoning hazards in accordance with North Carolina General Statute 130A-131.9A.

Investigation Methods Used

- X-Ray Fluorescence Analyzer, (XRF) (to test painted surfaces)
- Dust Sampling
- Soil Sampling
- Water Sampling

- Paint Sampling
- Spice Sampling

FINDINGS:

During the investigation, an XRF analyzer was used to test for the presence of lead-based paint or other substances that contain lead. An XRF reading of 1.0 milligrams per square centimeter (mg/cm²) or above indicates lead poisoning hazards on any readily accessible substance or chewable surface on which there is evidence of teeth marks or mouthing, or on any other deteriorated or otherwise damaged interior or exterior surface.

Locations identified as positive for lead- based paint are listed below:

Exterior:

- Front and side porch: columns, beam, upper boxing, upper trim molding, ceiling
- Back porch upper boxing, upper trim, ceiling trim, ceiling
- Siding including trim, boxing, molding and eaves
- Exterior window components: frames, stops, sills, sashes
- Exterior door components: doors, frames, jambs, stops

Interior

- Interior door components: doors, frames, jambs, stops
- Interior window components: frames, stops, stools, sashes
- Ceilings
- Bathroom wall
- Stair riser and treads

Other

- House key
- Sinks

**** Not all surfaces were tested with the XRF analyzer. However, if a surface tests positive, homogeneous or like components in the same area with similar paint histories are also considered positive.**

◆ Areas where lead-based paint is presently intact should be maintained intact or these areas could become lead poisoning hazards in the future. ◆

ENVIRONMENTAL SAMPLING RESULTS

Environmental samples were collected and submitted to the State Laboratory of Public Health for analysis. The standards listed in the table below are the levels established by N.C. State Law and are considered to be lead poisoning hazards. [The following **bold-typed** / None of the following] samples exceeded the standard:

SAMPLE No.	DESCRIPTION	RESULTS (Pb)	STANDARD (Pb)
1	Dust – dust blank	<10 ug	N/A
2	Dust – front porch floor	76 ug/ft²	40 ug/ft²
3	Dust – play area carpet	<10 ug/ft ²	40 ug/ft ²
4	Dust – kitchen entrance rear/hall carpet	<10 ug/ft ²	40 ug/ft ²
5	Dust – window sill dining room side D	80 ug/ft ²	250 ug/ft ²
6	Dust – window sill child’s bedroom	18,000 ug/ft²	250 ug/ft²
7	Dust – miniblind child’s bedroom	3,800 ug/ft²	250 ug/ft²
8	Dust – bathroom window trough	11,300 ug/ft²	400 ug/ft² (post clearance)
9	Soil - composite drip-line	1,800 ppm	400 ppm
10	Soil – composite non-play area of backyard	1000 ppm	1200 ppm
11	Water – kitchen faucet (first draw)	<5 ppb	15ppb
12	Paint chip – living room crown molding	0.515 %	0.5%
13	Dust – work boots	80 ug	No NC standard

Lead dust level on the window sill in the child’s bedroom was 18,000 ug/ft², 72 times the standard of 250 ug/ft². Lead dust level on the mini blinds in child’s bedroom was 3,800 ug/ft², over 15 times the standard of 250 ug/ft². Although North Carolina Statutes do not define a lead dust hazard level for window troughs, it is required that lead dust be less than 400 ug/ft² for clearance. The bathroom window trough tested 28 times higher than the post clearance level of 400 ug/ft². The window sill, trough and miniblind dust levels are extremely high and could contribute to lead exposure of a child. It is recommended that access to these areas be restricted until lead dust clean up and remediation can be performed.

Crown moldings with similar paint history and condition tested in a range of 0.8 to 0.9 mg/cm² with the XRF analyzer throughout the dwelling. Paint chip sample results of 0.515% confirmed that paint on the crown moldings exceeds the current standard of 0.5% lead and is considered a lead poisoning hazard. Therefore, remediation of crown moldings will be [required / recommended] throughout dwelling.

Although there is no NC lead hazard standard for the dust sample taken on the **work boots**, the amount of lead detected may contribute to the lead exposure of a child.

SPICE SAMPLING RESULTS

Spice samples were collected and submitted to the North Carolina State Laboratory of Public Health for analysis. The levels listed in the table below for spices are the guidelines established by the NC Childhood Lead Poisoning Prevention Program as being reportable to the Food and Drug Administration (FDA).

[The following **bold-typed** / None of the following] samples exceeded the reportable levels:

SAMPLE No.	DESCRIPTION	RESULTS (Pb)	REPORTABLE LEVELS To FDA (Pb)
1	Turmeric	2.0 mg/kg	1.0 mg/kg
2	Cumin	0.38 mg/kg	1.0 mg/kg
3	Chili Powder	<0.1 mg/kg	1.0 mg/kg

Spice Recommendations

Lead contamination in the [turmeric] was detected above reportable levels and it is recommended that it be discarded or not consumed by children.

Lead contamination in the [cumin and chili powder] was detected, but at less than reportable levels.

There is no known safe level of lead in the human body. The amount of lead that a child may get from a contaminated spice depends on how much lead is in the spice, how much is consumed and how often. To reduce potential of lead exposure, we advise eliminating consumption of spices known to contain lead and avoiding eating spices and herbal remedies purchased overseas, shipped to you from another country by friends or family, or bought over the internet. Follow the enclosed guidance: "Lead in Spices and Other Cultural Items."

REQUIRED/RECOMMENDED REMEDIATION OF LEAD POISONING HAZARDS

Lead poisoning hazards were identified at **Property Street, Property City, NC** and [shall be remediated / remediation is recommended] in accordance with North Carolina General Statutes 130A-131.5 et seq. and Title 15A North Carolina Administrative Code 18A .3100.

There are two primary methods used to control lead poisoning hazards:

1. **Maintenance Standard activities** - using lead-safe work practices to repair and repaint all surfaces identified as lead-based paint hazards. Maintenance Standard activities are measures performed to reduce possible lead exposure to young children such as specialized cleaning to remove lead dust, paint stabilization, reducing friction and impact on lead painted surfaces; and renovation, repair and painting activities. This method of remediation requires an annual monitoring inspection by the Department. There is no charge for annual monitoring. Renovation activities performed under the Maintenance Standard may also require certification by a **North Carolina Certified Lead Renovator and North Carolina Certified Lead Renovation Firm**. For more information visit the Health Hazards Control Unit (HHCU) web site at <https://epi.dph.ncdhhs.gov/lead/lhmp.html>
2. **Abatement** – is any measure designed to permanently eliminate lead-based paint hazards. Abatement methods include enclosure, encapsulation, replacement, paint removal and permanent covering of soil. **North Carolina Certified Lead individuals and North Carolina Certified Lead Firms are required to perform lead abatement activities. When performing lead abatement activities, a lead abatement permit is required to be submitted to the HHCU.** For more information visit the HHCU web site at <https://epi.dph.ncdhhs.gov/lead/lhmp.html>

◆ Please note that abatement does not include renovation, remodeling, landscaping, or other activities, when such activities are not designed to permanently eliminate lead-based paint hazards, but instead are designed to repair, restore, or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead poisoning hazards.

Maintenance Standard Methods: Maintenance activities may involve using certified contractors (see Notice below).

- 1) **Exterior and Interior Doors and Door Components including doors, frames, jambs and stops:** Using lead-safe work practices, repair and repaint these components. Minimum friction/impact treatment is required. Conditions in which painted surfaces are rubbing, binding, or being damaged shall be corrected to keep paint intact and prevent the generation of lead dust. Or, use an approved method of abatement.

2) **Exterior and Interior Windows and Window Components including window frames, jambs, stools, sills and stops:**

Using lead-safe work practices, repair and repaint these components. Minimum friction/impact treatment is required. Conditions in which painted surfaces are rubbing, binding, or being damaged shall be corrected to keep paint intact and prevent the generation of lead dust. Or, use an approved method of abatement.

3) **Exterior Components including Front Porch Columns, Front & Back Porch Beams, Upper Trim Molding & Boxing, Porch Ceilings, Overhang, Siding including Trim, Eaves and Boxing:**

Using lead-safe work practices, repair and repaint these components. Conditions in which painted surfaces are rubbing, binding, or being damaged shall be corrected to keep paint intact and prevent the generation of lead dust. Or, use an approved method of abatement.

4) **Interior Components including Crown Molding, Stair Riser and Treads:**

Using lead-safe work practices, repair and repaint these components. Conditions in which painted surfaces are rubbing, binding, or being damaged shall be corrected to keep paint intact and prevent the generation of lead dust. Or, use an approved method of abatement.

5) For **lead-contaminated soil**, an approved covering (e.g., mulch, sod, or other vegetative cover) of four to six inches must be established and maintained in areas of bare soil within three feet of the dwelling and any other area of bare soil identified as a lead poisoning hazard.

6) Using lead-safe work practices, **remove dust by using measures to clean window components, the interior of the dwelling and the exterior porch area.** Components must be made smooth and easily cleanable to reduce lead dust levels and to prevent the accumulation of lead dust. In addition, the interior of the facility including the window components should be vacuumed with a high efficiency particulate air (HEPA) vacuum to reduce lead dust levels within the facility. A HEPA vacuum cleaner is designed so that all the air drawn into the machine is filtered through the HEPA filter with none of the air leaking past it. The HEPA vacuum must be operated and maintained according to the manufacturer's instructions.

Abatement Methods: Methods of abatement involve using certified lead abatement contractor (see * Notice * below).

1) **Exterior and Interior Doors and Door Components including door frames, stops and thresholds:**

Methods of abatement include the removal of all lead-based paint down to the substrate and repainting of the components, or enclosure of the components using approved materials and methods or replacing components with new material including all friction/impact surfaces.

2) **Exterior and Interior Windows and Window Components including window troughs, jambs, casings, sills and stops:**

Methods of abatement include the removal of all lead-based paint down to the substrate and repainting, replacement of components or enclosure of the components using approved materials and methods.

3) **Exterior Components including Front Porch Columns, Front & Back Porch Beams, Upper Trim Molding & Boxing, Porch Ceilings, Overhang, Siding including Trim, Eaves and Boxing:**

Methods of abatement include the removal of all lead-based paint down to the substrate and repainting, replacement of components, encapsulation, or enclosure of the components using approved materials and methods. Encapsulants are not acceptable for use on friction impact surfaces.

4) **Interior Components including Living Room Crown Molding, Stair Riser and Tread:**

Methods of abatement include the removal of all lead-based paint down to the substrate and repainting, replacement of components, encapsulation, or enclosure of the components using approved materials and methods. Encapsulants are not acceptable for use on friction impact surfaces.

- 5) For **lead-contaminated soil**, areas of bare soil should be (a) physically restricted by a permanent barrier, (b) removed; or (c) paved over with concrete or asphalt.
- 6) Using lead-safe work practices, **remove dust by using measures to clean window components, the interior of the dwelling and the exterior porch area**. Components must be made smooth and easily cleanable to reduce lead dust levels and to prevent the accumulation of lead dust. In addition, the interior of the facility including the window components should be vacuumed with a high efficiency particulate air (HEPA) vacuum to reduce lead dust levels within the facility. A HEPA vacuum cleaner is designed so that all the air drawn into the machine is filtered through the HEPA filter with none of the air leaking past it. The HEPA vacuum must be operated and maintained according to the manufacturer's instructions.

Other Lead Poisoning Hazard(s) Identified:

Miniblinds in the child's bedroom, were found to contain extremely high levels of lead dust. Properly remove miniblinds in accordance with the enclosed "Removal and Disposal of Lead Contaminated Vinyl Miniblinds" guidance.

Store **keys** out of the reach of children. Do not allow children to handle or mouth keys. Caregivers should wash their hands after handling keys and before preparing food for children.

There were **hand sinks** identified as being positive for lead and exhibiting signs of deterioration. Porcelain or enamel coated sinks can be a source of lead exposure. A worn or damaged surface makes the lead accessible to children. Children can be exposed to the lead by hand to mouth contact of the sinks. Remediation is [required / recommended]. These items may be repaired (re-glazed or recoated) or replaced. Products are available specifically designed for recoating tubs and sinks if repair is chosen.

Components to be Monitored:

There were surfaces that tested positive for lead but due to the intact condition are not deemed to be a hazard at this time. Remediation of these components will be [required / recommended] if surfaces are allowed to deteriorate and become a hazard in the future. Condition of the surfaces should be monitored, and care should be taken to maintain those surfaces intact. Intact components that were not deemed a hazard at this time are as follows:

- Ceilings
- Bathroom wall

Occupational Exposure:

A potential source of lead exposure is the occupational exposure due to cleaning firearms and time spent in target practice and is possibly contributing to the amount of lead dust found on the **work boots**. Cross-contamination from the occupational source of lead should be limited as much as possible. This would include the following activities:

Clean work vehicle interior, car seat, car mats and upholstery with a general household cleaner to remove any possible existing lead dust. If possible, remove work clothes and shoes and shower at work. If this is

not possible, remove clothes and shoes upon arrival to home and before contact with a child. Shower or wash hands to remove lead dust from skin before contact with a child. Launder work clothes separately from regular laundry. Follow the enclosed guidance: “Cleaning Up Take-Home Lead Dust in Your Home and Car” and “Keeping Lead at Work and Preventing Take-Home Lead Exposure”.

Some general lead safe work practices include washing hands with soap and water before breaks, lunch, prior to smoking, at the completion of handling firearms and at the end of the workday. Work areas should be kept clean and wiped with a damp paper towel and general household cleaner to minimize the presence of lead dust in the work area. Wear personal protective equipment in the work environment where required to keep work clothes free of lead dust. If possible remove work clothes and boots and shower before leaving work.

Conduct **Specialized Cleaning** to remove dust that may contain lead. Follow the enclosed guidance: “Cleaning to Remove Lead Dust”, “Examples of Lead-Safe Work Practices” and “Cleaning Up Take-Home Lead Dust in Your Home and Car”.

In lieu of using the Maintenance Standard or Abatement described above, there are additional available options for remediation:

- ❖ Permanently abandon, vacate, or demolish the building in accordance with local zoning and building code. Re-occupancy of an abandoned property will require approved remediation of lead hazards. The health department recommends remediation be completed before allowing re-occupancy (including a visual inspection and lead dust clearance testing).
- ❖ Change the use of this building from a **residential housing unit; excluding use as a child-occupied facility.**

Additional Recommendations

Children’s activities should be closely monitored to prevent access to paint chips, lead-contaminated dust and soil. Thorough and routine cleaning of the window components and floors along with frequent hand washing will help reduce lead exposure. Follow the enclosed guidance: ”Short-term Actions to Prevent Exposure to Lead.” **The crib in bedroom 1 should be moved away from the window immediately.[customize for immediate actions needed.]**

Notices and Other Important Information

In accordance with G.S. 130A-131.9B, upon determination that a lead poisoning hazard exists, the Department shall give written notice to the owner or managing agent of the residential housing unit and to all persons residing in, attending, or regularly visiting the unit.

Important disclosure information: Federal law requires that the seller or landlord make this report available to any potential buyer or tenant of the property addressed in this report when purchase or lease agreements are signed.

To find NC certified lead firms who can perform renovation, repair and painting activities or lead abatement activities, visit the Health Hazards Control Unit (HHCU) web site at <https://epi.dph.ncdhhs.gov/lead/lhmp.html> and select “Find Lead Professionals”. For more information, contact the NC Department of Health and Human Services, Health Hazards Control Unit (HHCU) by calling (919) 707-5950.

For more information about the NC Childhood Lead Poisoning Prevention Program, please contact the Raleigh office (919) 707-5950. If you have any questions about the material in this report or if you want a copy of the laboratory and XRF data, please contact **County EHS Name at LHD phone number**.

Report Prepared by:

Name, REHS

Children's Environmental Health
NC DHHS Environmental Health Section

Enclosures

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