

## **CASE STUDY: LEAD BASED PAINT INSPECTION/RISK ASSESSMENT PUBLIC HOUSING/SINGLE FAMILY DWELLING**

**Project Description: County Housing Rehabilitation Program  
Dwelling renovations - Children Under 6 Years Old**

**Scope of Services:** AET was contracted by a County Agency to perform an LBP inspection and risk assessment at a 45 year old single family dwelling (two stories with a basement) occupied by two adults and 4 children. Two of the children were under the age of 6. AET's lead evaluation was performed to identify lead coated building materials impacted by planned dwelling renovations as part of the County's Housing Rehabilitation Program. LBP testing results were used for renovation decision-making including selection of lead abatement options. Lead surface dust sampling was used to establish background levels for the dwelling prior to renovations and evaluate concerns of potential health effects to the children.

### **AET's Investigative Approach/Sampling/Tools:**

1. **XRF Spectrum Analyzer Testing...** XRF testing was performed per HUD guidelines for single family housing and EPA Regulation 24 CFR Part 35 Lead Paint Poisoning Prevention in Certain Residential Structures. A total of 206 paint coated surfaces (both exterior and interior) were evaluated including specific testing combinations (i.e., room equivalent, building component type and substrate). Coating color was also noted. An average of 3 XRF readings were recorded at each testing location and the paint condition noted.
2. **Lead Surface Dust Sampling...** Wipe samples were collected and compared to HUD's Risk Assessment Criteria for floors (40 ug/ft<sup>2</sup>) window sills (250 ug/ft<sup>2</sup>) and window wells (400 ug/ft<sup>2</sup>).
3. **Soil Sampling...** The drip line of the house had no exposed soil. However, approximately 25 square feet of bare soil (in 4 distinct locations) were found in the back yard and used as children play areas. Soil sampling results were compared to HUD criteria of 400 ppm of lead.

**Standards:** EPA/HUD Standards define abatable lead as coatings containing 1.0 mg/cm<sup>2</sup> (by XRF) or 0.5% lead by weight (by paint chip). Disturbance of lead-containing materials (even when the lead content is below EPA/HUD criteria) can create lead dust. OSHA's Lead in Construction Standard 29 CFR 1926.62(h) Housekeeping requires "all surfaces shall be maintained as free as practical of accumulations of lead".

**AET's Experience:** LBP must be maintained in good/intact condition by the implementation of interim controls such as paint film stabilization and friction/impact surface treatment. Long term lead hazard control is not a single solution. Careful evaluation for each paint coated building component and professional decision-making regarding lead abatement options (component replacement, on-site/off-site paint removal, isolation/enclosure system and encapsulation) is essential. Regardless of whether interim controls or long term controls are implemented, extensive and specialized cleaning (HEPA vacuuming and wet washing) is required after the source of dust has been controlled. Lead poisoning is most often associated with children exposed to lead dust during hand-to-mouth activities.

When you need professional lead advice email Alan Sutherland, CIH, CHMM at [a.sutherland@aetinc.biz](mailto:a.sutherland@aetinc.biz) or call 610-891-0114 and reference Project #M876. We provide nationwide services; phone consultations are free. Check out the full range of environmental contracting/consulting services on our website [www.aetinc.biz](http://www.aetinc.biz).

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