



THE INSPECTION

LEAD INSPECTOR RISK ASSESSOR TRAINING

Your Responsibility for “The Inspection”....

- Identify the source(s) or potential source(s) of lead
 - Including non-environmental sources
- Investigate all accessible areas in the residence
 - Including all exterior structures
- Investigate other residences
 - Other units within building w/child<6
 - Other residences the child frequents
 - Childcare



A Comprehensive Lead Inspection (CLI) must be done when....

- EBLL >20 $\mu\text{g}/\text{dL}$ venous
- Two 15-19 $\mu\text{g}/\text{dL}$ venous tests taken >90 days apart
 - Shall begin within 5 working days
- Other dwelling unit with child <6 years
 - Must be conducted within 30 days
- Federal Funding Requirement
- Licensure for OEC

CLI Must be conducted by..

Trained Code Enforcement Official (CEO)

-Must be up-to-date with training

Licensed Lead Consultant

-With certified lead inspector or lead inspector risk assessor

Be Prepared.....

- Review Surfaces that you need to test
 - ✓ 19a-111-3(1) (A&B) interior and exterior

- Field kit:

Tool box

Dust wipes with tubes

Zip lock bags for soil sampling

Water sampling bottles (at least 2)

Labels

Pens- permanent marker

Paint scrapper/ hammer

White paper

Flashlight

Camera

Tape measure

Tape for template

Safety goggles

Gloves

Spoons



- Room Layout Sheets

- ✓ *Interior, exterior, common areas*

- Laboratory Collection Forms

Be Prepared Cont.....

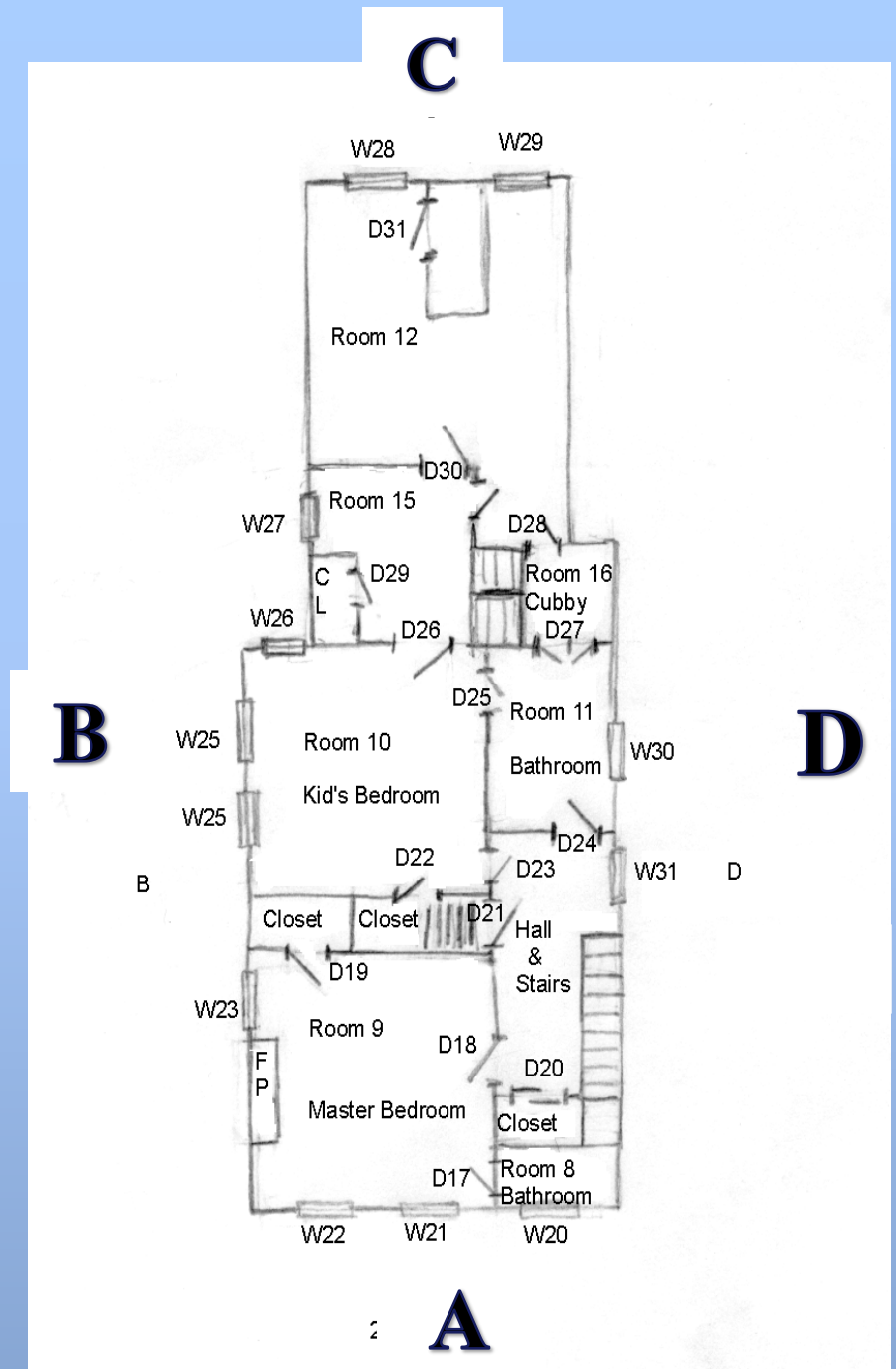
■ XRF

- DPH has 3 (2RMD, 1 Heuresis)
- 3 on loan at Local Health Departments
 1. Meriden (Heuresis)
 2. Stamford
 3. Stratford
- Must be trained in Radiation Safety (web based training)
- Must wear a dosimeter badge
- Make sure battery is charged



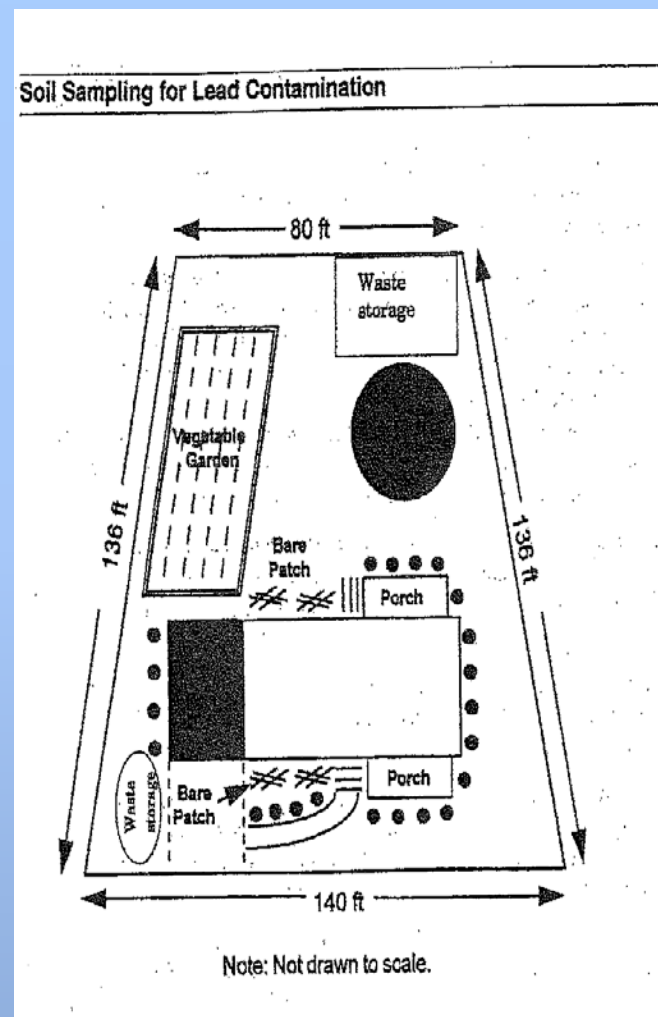
Starting your interior inspection....

- Your safety is priority!!
- Proceed room to room in systematic, orderly fashion
- Show orientation
 - ✓ A, B, C, D
 - ✓ Note locations of doors, windows, closets, stairs
 - ✓ Name & # rooms/areas
 - ✓ Note condition of paint
 - ✓ Note housing issues that need correction prior to Abatement
 - ✓ Don't forget Common Areas



Don't Forget the Exterior....

- Walk/survey the property
- Use A,B,C,D orientation
- Sketch all exterior buildings/structures
 - ✓ *detached garages*
 - ✓ *porch*
 - ✓ *sheds*
 - ✓ *play area/play ground equipment*
 - ✓ *gardens*
 - ✓ *fence*



Soil Sampling

Supplies:

1. Disposable gloves
2. Hard shell containers
3. Labels- marker
4. Lab forms
5. 1 sq/ft. template or ruler
6. Bag for completed samples
7. Bag for trash

■ Sample bare soil

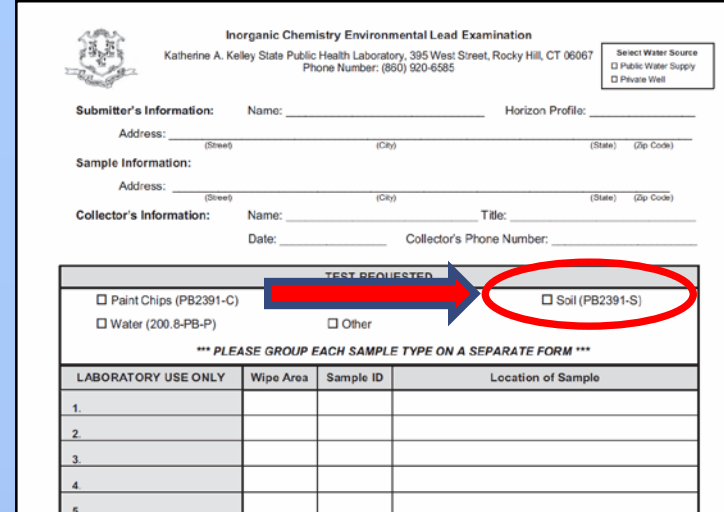
-Drip line(usually highest lead levels), Play areas, Gardens, Other bare soil areas

- ✓ Note sample locations on exterior sketch
- ✓ Document sampling methodology (grab vs. composite)

■ Results are reported in ppm or µg/mg

Action/Hazard level:

>400 ppm = control hazard >5,000 ppm = permanent abatement method



The form is titled "Inorganic Chemistry Environmental Lead Examination" and is from the Katherine A. Kelley State Public Health Laboratory, 395 West Street, Rocky Hill, CT 06067. It includes a section for "Submitter's Information" with fields for Name, Address, and Phone Number. Below this is "Sample Information" with fields for Name, Address, and Phone Number. The "Collector's Information" section includes fields for Name, Title, Date, and Collector's Phone Number. A "TEST REQUESTED" section has checkboxes for "Paint Chips (PB2391-C)", "Water (200.8-PB-P)", "Other", and "Soil (PB2391-S)". A red arrow points to the "Soil (PB2391-S)" checkbox, which is also circled in red. Below this is a table with columns for "LABORATORY USE ONLY", "Wipe Area", "Sample ID", and "Location of Sample". The table has 5 rows for sample entry.

LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

Soil Sampling Methodology

Two types:

Composite soil sampling

- Multiple grab samples equidistant over an area
- Combine grab samples from one side of the dwelling into one composite
- Use core tool or plastic spoon
- Go to 1/2 inch deep
- Include paint chips if present
- No more than 10 grabs per composite

Grab sampling

- One sample per sample location
- Use core tool or plastic spoon
- Depth of soil to be sampled: top half inch
- Include paint chips if present



Water Sampling

Supplies:

1. Disposable gloves
2. Water collection container from DPH Lab
3. Labels- marker
4. Lab forms
5. Bag for completed samples



- ✓ Collect when water has not been used for **6 hours**
- ✓ Collect 2 water samples per dwelling
- ✓ Label both water bottles (1st & 2nd draw)

Inorganic Chemistry Environmental Lead Examination
Katherine A. Kelley State Public Health Laboratory, 395 West Street, Rocky Hill, CT 06067
Phone Number: (860) 920-6585

Select Water Source
☐ Public Water Supply
☐ Private Well

Submitter's Information: Name: _____ Horizon Profile: _____
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

Sample Information:
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

Collector's Information: Name: _____ Title: _____
Date: _____ Collector's Phone Number: _____

TEST REQUESTED

☐ Paint Chips (PB2391-C) ☐ Dust Wipe (PB2391-E) ☐ Soil (PB2391-S)
☐ Water (200.8-PB-P) ☐ Other

*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***

LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

Water Sampling



First draw water sample:

- Collect as soon as water is turned on
 - ✓ Identifies:
 - Premise plumbing (Water service lines within the home)
 - Fixtures

Second draw water sample (flush sample):

- Collect after 2 minutes of flushing
 - ✓ Private wells may need to run water longer
 - ✓ Identifies:
 - Water from exterior service line/well

Action/Hazard level:

$15 \text{ ppb} = 15 \mu\text{g/L} = 0.015 \text{ mg/L}$

Dust Wipe Collection..

Supplies:

1. Disposable gloves
2. Wipes – “ghost wipes ” preferred
3. Hard shell containers
4. Labels- marker
5. Lab forms
6. 1 sq/ft. template or ruler
7. Masking tape
8. Bag for completed samples
9. Bag for trash



■ Must sample Floor & Window Sill

–Floor:

- ✓ Measure 1 sq. ft, use “S” motion twice, then around entire area

–Window Sill:

- ✓ Record Dimensions
- ✓ Wipe entire area use “S” motion

■ Document/describe location

■ Place in labeled container and submit to lab

Inorganic Chemistry Environmental Lead Examination			
Katherine A. Kelley State Public Health Laboratory, 395 West Street, Rocky Hill, CT 06067 Phone Number: (860) 920-6555			
			Select Water Source: <input type="checkbox"/> Public Water Supply <input type="checkbox"/> Private Well
Submitter's Information:		Name: _____	Horizon Profile: _____
Address: _____		(Street) (City) (State) (Zip Code)	
Sample Information:		Address: _____	
		(Street) (City) (State) (Zip Code)	
Collector's Information:		Name: _____	Title: _____
		Date: _____	Collector's Phone Number: _____
TEST REQUESTED <input type="checkbox"/> Water (200.8-PB-P) <input checked="" type="checkbox"/> Dust Wipe (PB2391-E) <input type="checkbox"/> Soil (PB2391-S)			
*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***			
LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

Dust Wipe Collection 101...

- Always change gloves between sample collection
 - ✓ Do not touch anything other than the wipe and the surface to be sampled
 - Fold the wipe completely before inserting it in the tube
 - Considering pre-labeling dust wipes tubes
 - Clean any templates between sampling locations
 - A minimum of 2 unused or blank wipes must be submitted
 - ✓ 1 – 20 dust wipes samples = 2 blanks
- Then add + 1 blank wipe for every 20 samples submitted
- ✓ 21 – 40 dust wipes samples = 3 blanks
 - ✓ 41 - 60 dust wipes samples = 4 blanks



***MUST** include the dimensions of sampling area

Action/Hazard level:

Floors: $\geq 40 \text{ ug/ft}^2$ Interior Window Sills: $\geq 250 \text{ ug/ft}^2$

Paint Chip Sampling...


- XRF results are inconclusive
- No flat surface to test
- XRF instrument won't fit in the area to be tested



Paint Chip Sampling

Supplies:

1. Disposable gloves
2. Labels
3. Hard-shell containers
4. Cutting device
5. Bag for Collection



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Select Water Source
☐ Public Water Supply
☐ Private Well

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Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

Sample Information:
Address: _____ (Street) _____ (City) _____ (State) _____ (Zip Code)

Collector's Information: Name: _____ Title: _____
Date: _____ Collector's Phone Number: _____

TEST REQUESTED

☒ Paint Chips (PB2391-C) ☐ Dust Wipe (PB2391-E) ☐ Soil (PB2391-S)
☐ Water (PB2391-W) ☐ Other

*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***

LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
1.			
2.			
3.			
4.			
5.			

- Document/describe location
- Cut and collect 1-4 sq. inches of paint (sample all layers)
- Place in labeled container and submit to lab
- Inspector must repair surface if it was intact

Action/Hazard Level:

≥ .5% by weight or 5,000ppm

EPA approved Lead Check Swabs...

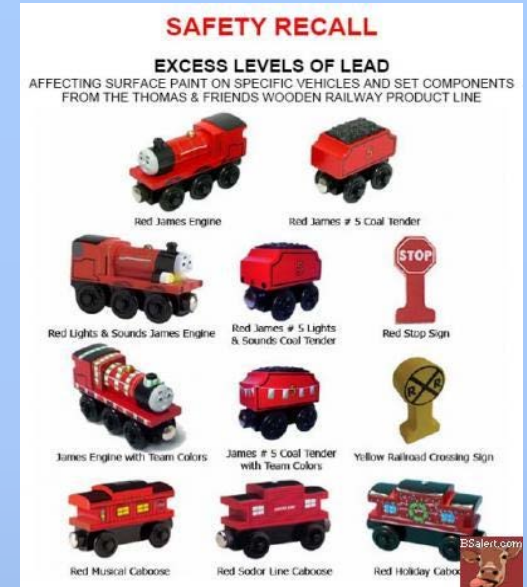
- Are these approved in CT as an acceptable method for testing for the presences of lead?

NO



Other Samples..

- ✓ Spices
- ✓ Pottery
- ✓ Toys
- ✓ Cosmetics
- ✓ Candy
- ✓ Candy wrappers
- ✓ Ayurvedics
- ✓ Hobby supplies




Lab Submission Form

Supplies:

1. Disposable gloves
2. Hard shell containers
3. Labels- marker
4. Lab forms
5. Bag for completed samples

- Call Us
- Description of product
- Obtain original product w/packaging if possible
- Place in labeled container
- Submit to DPH lab

 **Inorganic Chemistry Environmental Lead Examination**
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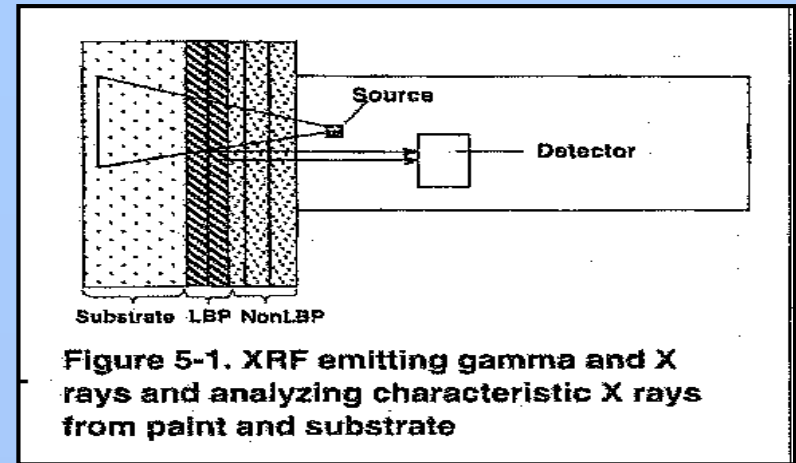
TEST REQUESTED

☐ Paint Chips (PB2391-C) ☐ ~~Soil Wipes~~ (PB2391-E) ☐ Soil (PB2391-S)
☐ Other

*** PLEASE GROUP EACH SAMPLE TYPE ON A SEPARATE FORM ***

LABORATORY USE ONLY	Wipe Area	Sample ID	Location of Sample
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3.			
4.			
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XRF Analyzers 101

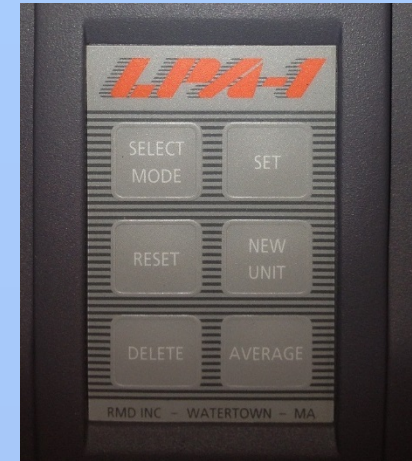


- Instrument exposes a painted surface to radiation emitted from a sealed source
- The source is cobalt-57 (^{57}Co)
- ^{57}Co emits energy in the form of gamma rays
- The elements in the paint are “excited” and respond by emitting energy in the form of x-rays, this response is known as fluorescence

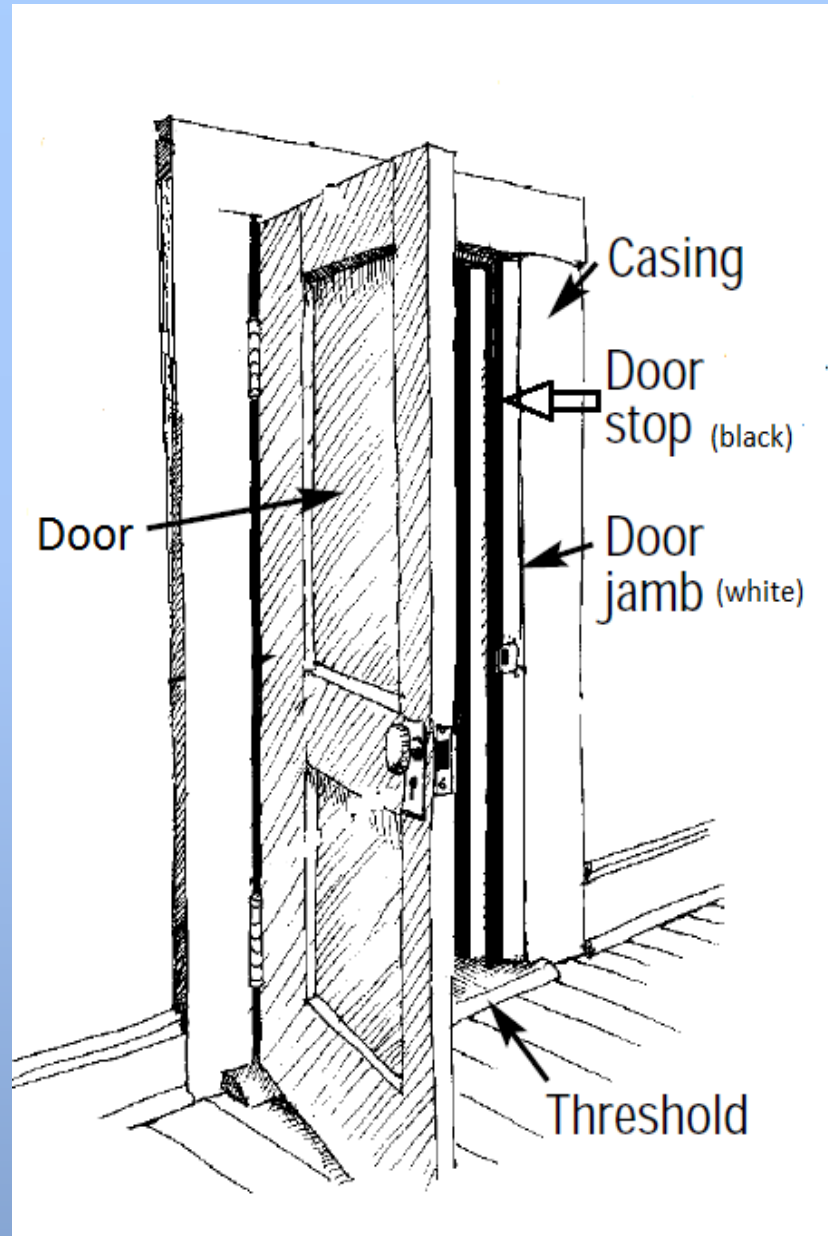
XRF Use & Operation

(LPA-1 specific)

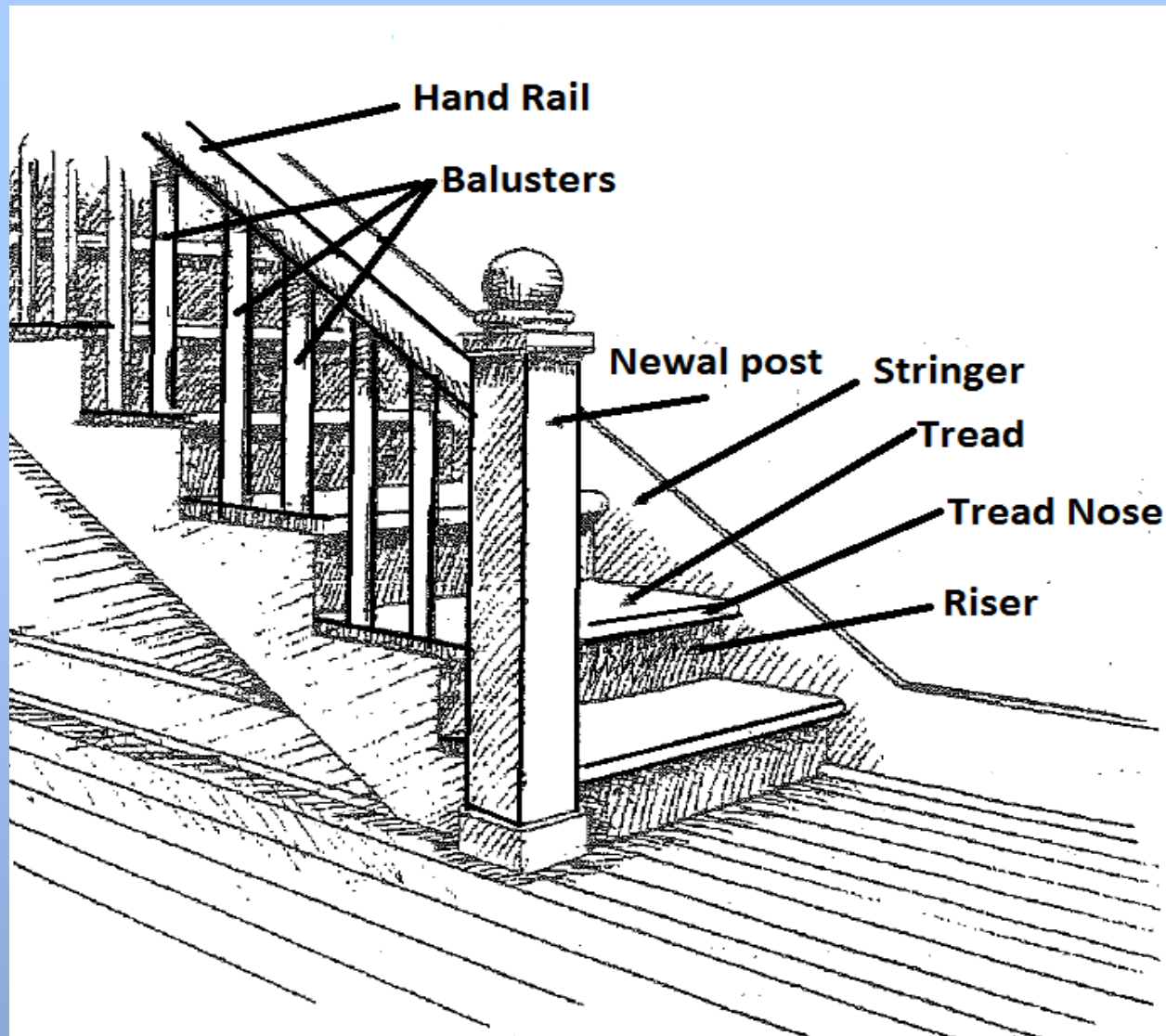
- Geiger counter
 - take readings before and after use
- Choose a job number (new unit)
- Set abatement level (1.0 mg/sq.cm)
- Calibration: In ***“Time Corrected”*** mode (select mode)
 - *measure standard calibration block (1.0 mg/sq.cm.) **3 times***
 - *record on data form (.7-1.3 acceptable)*
 - *measure blank side (0.0 mg/sq.cm.) **3 times for reference***
- Go to “Quick” mode (select mode) - complete all measurements
- Repeat calibration step at end of job and/or every 4 hours



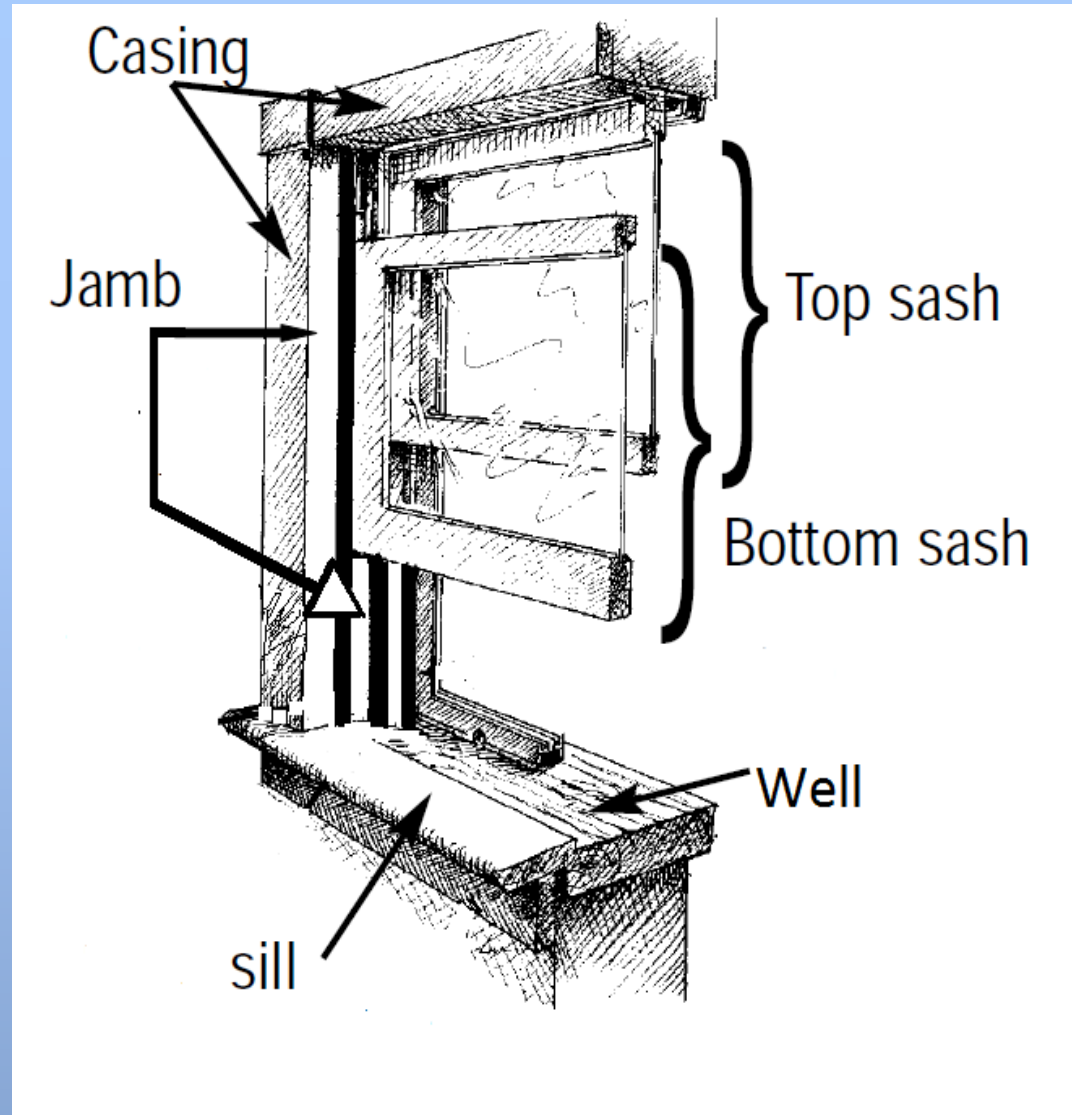
DOOR COMPONENTS



STAIR COMPONENTS

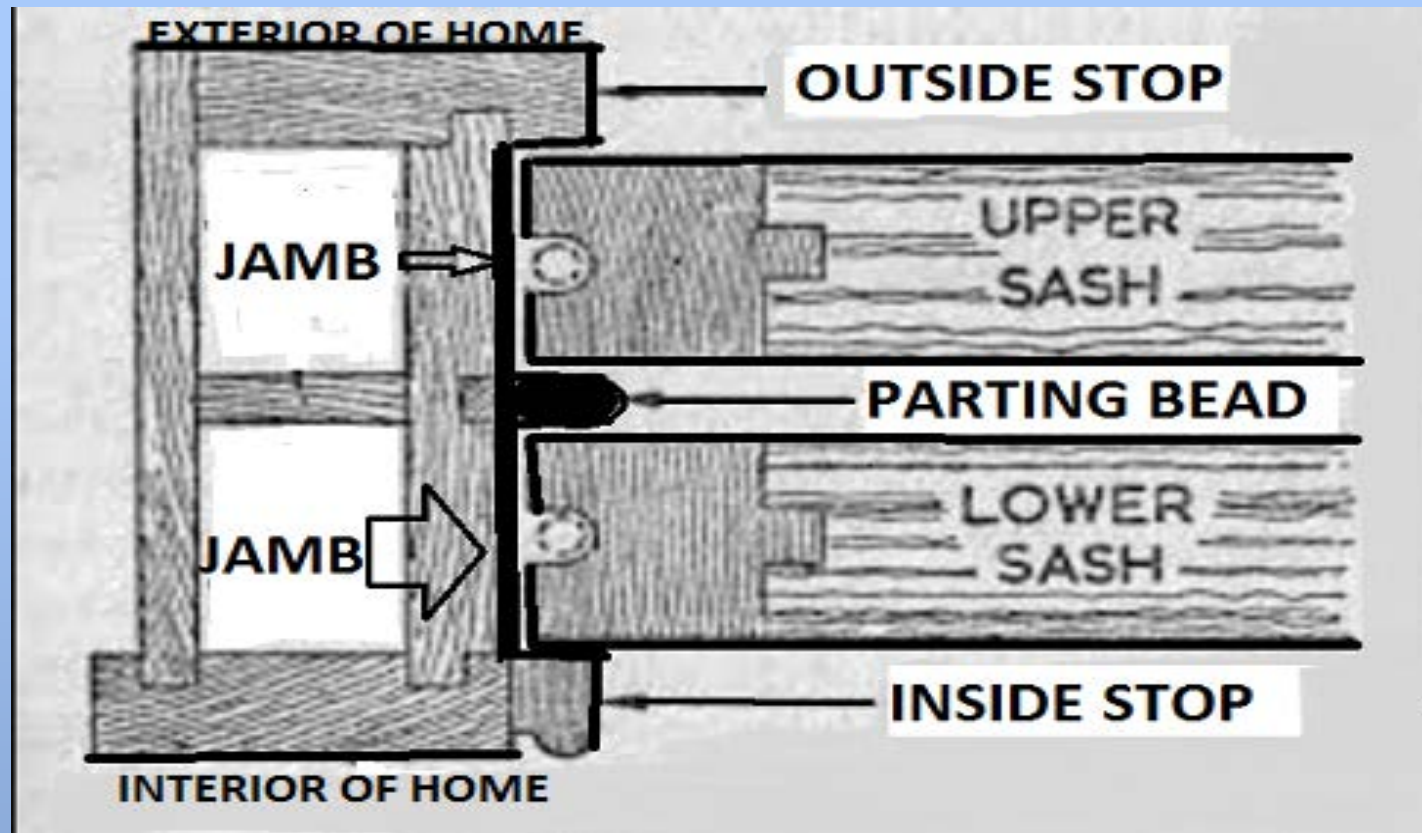


WINDOW COMPONENTS



WINDOW COMPONENTS

CROSS SECTIONAL VIEW OF WINDOW COMPONENTS



Post Abatement Testing:

TYPES OF ABATEMENT:

TYPE OF TESTING:

Replacement of Window/door/trim



Clearance dust wipes

Paint Removal

- ✓ Chemical stripping
- ✓ Mechanical stripping
- ✓ Wet scraping
- ✓ Wet sanding
- ✓ Heat gun)



XRF testing

Encapsulations

- ✓ Rigid (enclosure)
- ✓ Cementitious
- ✓ Liquid



Clearance dust wipes

Soil 6" of landscaping material

- ✓ Mulch
- ✓ Soil



Visual Inspection/Verify depth

Soil removal/tiling/mixing

- ✓ Including after exterior work



Soil sampling and tested

Clearance Standards:

<i>Floors:</i>	<i>$< 40 \mu\text{g}/\text{sq. ft.}$</i>
<i>Window sills:</i>	<i>$< 250 \mu\text{g}/\text{sq. ft.}$</i>
<i>Window wells:</i>	<i>$< 400 \mu\text{g}/\text{sq. ft.}$</i>
<i>Soil:</i>	<i>$< 400 \text{ ppm or mg/kg}$</i>

Lead Abatement Waste Disposal

- Up to 10 cubic yards
 - ✓ Homeowner is allowed to dispose of
- > 10 cubic yards
 - ✓ TCLP (*Toxicity Characteristic Leachate Procedure*)
 - determines if waste is hazardous

**Careful handling of all LBP waste is important whether exempt or not*

Hazardous waste:

5 mg/kg, 5 mg/l or 5 PPM

Department of Energy and Environmental Protection Regulation

CT Hazardous Waste:

- **Must** be shipped/transported by permitted transporters
- **Must** go to a permitted hazardous waste treatment, storage or disposal facility (TSDF)

State of Connecticut Governor Dannel P. Malloy

Department of ENERGY & ENVIRONMENTAL PROTECTION

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ENERGY ENVIRONMENTAL QUALITY NATURAL RESOURCES OUTDOOR RECREATION PURA

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- Permits & Licenses
- Laws & Regulations
- Public Participation
- Education
- Maps and GIS Data
- DEEP Home

Report on ENVIRONMENTAL Concern/Problem

Calendar of Events

Laws and Regulations

Waste Transporters

How is waste transportation regulated in Connecticut? The transportation of hazardous waste and non-RCRA-Hazardous Waste (Connecticut Regulated Waste) is subject to special requirements in Connecticut. In particular, anyone transporting hazardous waste in or through Connecticut must have a permit from DEEP (except a generator transporting 1000 kilograms or less of their own waste to a permitted facility). Also, anyone engaged in the business of transportation of Connecticut-Regulated waste must also have a permit from DEEP pursuant to Connecticut General Statutes (CGS) Section 22a-454.

Permitted Waste Transporters and Facilities Lists of various types of waste transporters and facilities that are permitted by DEEP.

- [Permitted Biomedical Waste Transporters](#)
- [Permitted Hazardous Waste and Connecticut-Regulated Waste Transporters](#)
- [Permitted Spill Cleanup Contractors](#)
- [Commercial Hazardous Waste and Connecticut-Regulated Waste Facilities in CT](#)

Information for Transporters

Waste Disposal

- ✓ For additional information on hazardous waste handling requirements

**CT DEEP:
Ross Bunnell
860-424-3274**

**Hazardous
Waste**



Dr. Katherine A. Kelley Public Health Laboratory

395 West Street
Rocky Hill, CT 06067

MAIN NUMBER

860-920-6500

FAX

860-920-6710

Sample/Specimen Receiving

860-920-6680

Outfitting (Supplies)

860-920-6674/6675

