



Lead and Copper Rule Identifying Distribution System Materials and Establishing a Sampling Pool

CONDUCT A MATERIALS EVALUATION

All community and nontransient noncommunity water systems should survey all records documenting the materials used to construct and repair the distribution system and buildings connected to the distribution system. Relevant information can be attained through the following sources:

- Plumbing codes;
- Plumbing permits;
- Distribution maps and drawings;
- Inspection and maintenance records;
- Meter installation records;
- Standard operating procedures;
- Operation and maintenance manuals;
- Permit files;
- Existing water quality data;
- Interviews with senior personnel, building inspectors, and retirees; and
- Community survey.

Several worksheets for organizing the information collected during the materials evaluation are included at the end of this document. These worksheets should be useful when determining the sites that contain the highest priority materials.

CREATE A SAMPLING POOL

Based on the completed materials evaluation, community water supplies must identify a pool of lead and copper sampling sites large enough to ensure a sufficient numbers of sites are available for sampling. The sampling pool must target high risk sites using the criteria below.

- Samples must be collected from **Tier 1** sites, unless
- insufficient Tier 1 sampling sites are available, then **Tier 2** sites must be used, unless
- insufficient Tier 1 and Tier 2 sampling sites are available, then **Tier 3** sites must be used.
- If no Tier 1, 2, or 3 sites are available, sampling sites must be representative of plumbing materials typically found throughout the water system.

TIER 1 SITES - Single family residence with:

- Lead service lines*
- Copper plumbing with lead solder installed after 1982 and before 1989
- Interior lead plumbing
- Multiple family residences (MFR) may be used as Tier 1 sites when MFR comprise at least 20 percent of the total service connections.

TIER 2 SITES - Buildings or MFR with:

- Lead service lines*
- Copper plumbing with lead solder installed after 1982 and before 1989
- Interior lead plumbing

TIER 3 SITES - Single family residence with:

- Copper plumbing with lead solder installed before 1983

OTHER SITES

- Sites representative of plumbing materials commonly found throughout the water supply.

*** If a water system has lead service lines (LSL), at least 50 percent of the sampling sites must have an LSL. EPA has clarified that sites with lead goosenecks or pigtails (commonly defined as the publically-owned portion of the service line between the water main and a either a connector line or the curb box) should be considered Tier 1 sites. Priority should be placed on sites with full LSLs, followed by partial LSLs, followed by lead goosenecks.**

Also Note:

- Each round of sampling should be conducted at the same sampling sites. If an original sampling site is not available, you should collect a tap sample from another site meeting the same Tier criteria as the original site and document the reason for the change.
- For residential sites, samples must be collected from kitchen or bathroom taps typically used for consumption. For non-residential sites, samples must be collected from taps typically used for consumption. Do not sample from outside hose spigots or utility sinks.
- Samples may not be taken from taps that have point of use or point of entry treatment devices designed to remove inorganic contaminants, such as a water softener.

Attached are three worksheets available for your use:

Worksheet #1 - Materials Survey Inventory;

Worksheet #2 - Materials Survey Results by Number of Service Connections for each Plumbing Materials Type; and

Worksheet #3 - Summary of Material Survey Results

WORKSHEET #1 - MATERIALS SURVEY INVENTORY

Use this worksheet to record information about sampling sites based on your review of the supply's distribution system material inventory.

Public Water Supply Name: _____ WSSN: _____

Population Served: _____

Type of Structure	Location	Contact Person		LSL (F, P, or G)	Interior Plumbing Material	POE or POU Device	Verified	Volunteered	Selected		Received Training Material
		Name	Phone						Routine	Optional	

<p>Key:</p> <p>Type of Structure BLDG – Building MFR – Multi-family Residence SFR – Single Family Residence</p> <p>POE – Point of Entry Treatment POU – Point of Use Treatment</p>	<p>Lead Service Line (LSL) F – Full Lead Service Line P – Partial Lead Service Line G – Gooseneck or Pigtail</p> <p>Verified – Material verified by utility Volunteered – Resident/Owner agreed to the sampling</p>	<p>Interior Plumbing Material LP – Lead Pipe CLS82 – Copper Pipe with Lead Solder installed after 1982 and before 1989 CLS83 – Copper Pipe with Lead Solder installed before 1983 P – Plastic</p> <p>Routine – Compliance sampling pool site Optional – Additional compliance site if needed</p>
---	---	--

**WORKSHEET #2 - MATERIALS SURVEY RESULTS BY NUMBER OF SERVICE CONNECTIONS
FOR EACH PLUMBING MATERIALS TYPE**

This worksheet allows you to record the total number of service connections by type of structure and the type of interior and distribution system plumbing materials.

Public Water Supply Name: _____ WSSN: _____

Population Served: _____

Type of Structure	Type of Plumbing Material					
	Interior Plumbing			Distribution System Piping		
	Lead Pipe	Copper with Lead Solder 1983-88 ⁴	Copper with Lead Solder < 1983 ⁵	LSLs		
				Entire Line	Partial Line	Gooseneck or Pigtail
	Number of Service Connections			Number of Service Connections		
SFRs¹						
MFRs²						
BLDGs³						
TOTAL						

¹ SFR – single family residence

² MFR – multi-family residence

³ BLDG – public or commercial buildings

⁴ Refers to buildings that contain copper pipes with lead solder installed after 1982 and before 1989.

⁵ Refers to buildings that contain copper pipes with lead solder installed before 1983

WORKSHEET #3 - SUMMARY OF MATERIAL SURVEY RESULTS

This worksheet allows you to tally the number of service connections by type of structure and type of plumbing material.

Public Water Supply Name: _____ WSSN: _____

Population Served: _____

Plumbing Material	Type of Structure		
	SFR ¹	MFR ²	BLDG ³
	Number of Service Connections		
Interior Plumbing			
Lead Pipe			
Copper Pipe with Lead Solder installed after 1982 and before 1989 ⁴			
Copper Pipe with Lead Solder installed before 1983 ⁵			
Lead Service Lines			
Entire Line			
Partial Line			
Gooseneck or Pigtail			
Total Available Sites			

¹ SFR – single family residence

² MFR – multi-family residence

³ BLDG – public or commercial buildings

⁴ Refers to buildings that contain copper pipes with lead solder installed after 1982 and before 1989.

⁵ Refers to buildings that contain copper pipes with lead solder installed before 1983