



FACTSHEET – LEAD & COPPER MATERIAL EVALUATION & SAMPLE LOCATION IDENTIFICATION

(Ver 3.0 September 2020)

Introduction

All Community Water Systems (CWS) and Non-Transient Non-Community Water Systems (NTNC) shall complete a Materials Evaluation (ME) of the entire distribution system in order to identify a pool of targeted sampling sites based on the locations most vulnerable to lead exposure in drinking water (i.e. homes serviced by a lead service line or have lead piping/plumbing material throughout the home) in accordance with the Lead and Copper Rule (LCR). The sampling pool shall be large enough to ensure that the system can collect the required number of tap samples pursuant to 40CFR141.86(c). A summary of the ME, including the resources used to identify materials, a brief description of the materials identified, and a summary of the potential sites, must be included in the Lead and Copper Sampling Plan. NTNCs must use the Materials Evaluation Survey for Non-Community Water Systems (BWSE – 17) to assist in completing the ME.

STEP 1a: Identify Piping and Plumbing Materials

Relevant information concerning piping and plumbing materials used throughout the distribution system and within housing can be attained through the following sources:

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> • Plumbing Codes • Permitting Files • Community Survey • Distribution Maps and Drawings • Interviews with senior personnel, building inspectors, and retirees • Standard Operating Procedures | <ul style="list-style-type: none"> • Existing Water Quality Data • Township Construction Records • Water Main Break Records • Local/government records (e.g. tax records) • Meter Installation Records • Inspection and Maintenance Records | <ul style="list-style-type: none"> • Onsite ME, including thorough evaluation of plumbing material throughout the building and documentation of plumbing materials, any plumbing changes, and access restrictions • During normal operations (i.e. checking service line materials when reading water meters, performing maintenance activities, or conducting repair operations). |
|--|---|--|
- NTNCs may have a licensed plumber evaluate the plumbing materials of the distribution system.
 - DEP does not consider real estate websites to be an official record.
 - Inspection of plumbing within homes does not need to be conducted for inclusion in the sampling pool; however, if a system enters a building to confirm internal plumbing materials, the system is expected to evaluate the plumbing material, at a minimum, from the fixture and plumbing that is representative of where the sample is to be collected.

STEP 1b: Select Vulnerable Locations Under the LCR

Target homes with:

- Lead from piping, solder, caulking, interior lining, and alloys, in service lines (including goosenecks, pigtails and other connectors), and internal plumbing;
- Copper from piping and alloys, in service lines, and internal plumbing;
- Galvanized piping in service lines and internal plumbing; and/or
- Ferrous piping materials, such as cast iron and steel.



Fun Fact: Lead particles attach on the surface of galvanized pipes and over time can be released into the drinking water causing elevated levels of lead.



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STEP 3: Identify the Tier Level and Category for Available Locations

Tier	Community Water Systems	Category
1	Single-family structures:	
	• Served by a lead service line*; and/or	I
	• Containing copper pipes with lead solder installed <u>after</u> 1982 and before 1987**;	li
	• Or Containing lead pipes.	lii
2	Multiple-family residences***:	
	• Served by a lead service line (including goosenecks); and/or	lv
	• Containing copper pipes with lead solder installed <u>after</u> 1982 and before 1987*;	v
	• Or Containing lead pipes.	vi
	Non-residential buildings:	
	• Served by a lead service line (including goosenecks); and/or	x
	• Containing copper pipes with lead solder installed <u>after</u> 1982 and before 1987*;	xi
	• Or Containing lead pipes.	xii
3	Single family structures that contain copper pipes with lead solder installed <u>before</u> 1983.	vii
N	Do not meet Tier 1, 2, or 3 criteria:	vii, ix, xiii, xiv
	• Single family structure	viii
	• Multiple-family structure	ix
	• Non-residential building	xiv
	Non-residential building containing copper pipes with lead solder installed before 1983.	xiii
Tier	Nontransient Noncommunity Water Systems	Category
1	Buildings:	
	• Served by a lead service line*; and/or	x
	• Containing copper pipes with lead solder installed <u>after</u> 1982 and before 1987**; or	xi
	• Containing lead pipes.	xii
2	Buildings that contain copper pipes with lead solder installed <u>before</u> 1983.	xiii
N	Structures with other plumbing materials.	xiv

*Goosenecks, pigtails, or other connectors made of lead content are considered part of a service line.
 **Though the effective date for the lead ban in NJ was 1987, there is still a possibility of lead solder being used in construction after this date. Systems are advised to carefully consider the Tier level of homes and buildings built during this time. If a system suspects that lead is present in a home constructed after 1986, lead presence must be confirmed using resources outlined in Step 1a.
 ***When multiple-family residences comprise at least 20% of the structures served by a water system, Tier 2 multiple-family residences may be included as Tier 1 sites. These sites will be designated as Tier 1 but with the appropriate multi-family category.

- Building age alone may not provide enough information to classify a location. If plumbing repairs/replacement has taken place the location may need to be reclassified.
- The key characteristic to look for is lead – either piping or solder.
- All ME documents shall undergo quality and assurance checks to ensure sample locations meet the appropriate designated Tier criteria.



STEP 4: Create a Sampling Pool

The sampling pool must target high risk sites using the process below. To ensure a sufficiently large enough sampling pool to meet the required number of tap samples it is recommended to include all known high risk sites in the sampling pool (e.g. sites of the highest Tier). Systems with lead service lines (LSLs) shall, at a minimum, collect 50% of samples from sites served by LSLs; however, it is strongly recommended to conduct sampling at all known LSL sites prior to targeting any other Tier 1 sites. Customer agreement to participate in sampling does not have to be obtained prior to including the site in the sampling pool.

Community Water Systems:

Frist – Select all Tier 1 sites served by LSLs

Second – Select all other Tier 1 sites

Third – Select all Tier 2 sites served by LSLs

Fourth – Select all other Tier 2 sites

Fifth – Select all Tier 3 sites

Sixth – Select Non-Tier sites (If all available sites are Non-Tier, they should be evenly distributed throughout the distribution system.)

Maintain documentation if the system must sample from a less vulnerable Tier (e.g.. sampled Tier 2 site because Tier 1 sites not willing to participate in sampling event).

Non-Transient Non-Community Water Systems:

Select interior taps most commonly used for drinking/consumption (e.g. kitchen, drinking water fountain, breakroom, etc.):

First – Tier 1 building(s)

Second – Tier 2 building(s)

Third – Non-Tier building(s) (If all available sites are Non-Tier they should be evenly distributed throughout the distribution system.)

- If the water flows through a higher Tier building(s) (e.g. Tier 1) before entering the lesser Tier building(s) (e.g. Tier 2) the lesser Tier building(s) are to be included in the sampling pool.
- If the water system contains more than one building that meets the appropriate tier criteria, samples must be collected from each building as applicable.
- If the water system contains only plastic plumbing, but the faucets and fittings contain lead, the system should collect tap samples at these locations.

! Reminder: Any additional lead and copper sample collected from a lesser Tier must be reported to Bureau via the Non-Compliance Lead and Copper Tap Monitoring Form (BWSE – 16).

STEP 5: Maintaining the Sampling Pool

The ME is an ongoing process as LSLs are replaced and/or material is verified during normal operations. The water system is responsible for continuously updating their sampling pool based on their ongoing ME. Updated sampling pools must be submitted electronically to watersupply@dep.nj.gov on the PBCU Sample Location Spreadsheet (BWSE – 18). The Lead and Copper Sampling Plan must also be updated and maintained onsite.

Additional LCR Guidance is available at <http://www.nj.gov/dep/watersupply/dwc-lead-public.html>

For further assistance and feedback on this factsheet, please contact the Bureau of Safe Drinking Water at 609-292-5550 or watersupply@dep.nj.gov