



HUNTSVILLE UTILITIES
ELECTRICITY • NATURAL GAS • WATER

Lead & Copper Sampling Plan

Huntsville Utilities

PWSID NUMBER: AL0000882

Updated: May 2016

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System Information

System Name: Huntsville Utilities

PWSID Number: AL0000882

Address: P.O. Box 2048
Huntsville, AL 35804

Contact: Frederick Mucke, Water Operations Manager
256-535-1444

System Type: Community System

Population Served: Approximately 279,024

Water Sources: South Parkway and Southwest WTP's, and
Lincoln-Dallas, Hampton Cove and Williams Wells

Regulating Agency: Alabama Department of Environmental Management (ADEM)

Sampling Frequency: 50 distribution samples every 3 years
Next 50 samples must be collected between June 1 and September 30 by
September 30, 2018

Primary Laboratory: TTL Laboratories
Contact: Steve Martin
Address: 3516 Greensboro Ave.
Tuscaloosa, AL 35401
Telephone: 205-345-0546
Fax: 205-345-0992

Alternate Laboratory: Enersolv
Contact: Bill Hollerman
Address: 2220 Beltline Rd. SW
Decatur, AL 35602
Telephone: 256-350-0846
Fax: 256-350-0686

Lead and Copper Rule (LCR) Summary

Sources: Environmental Protection Agency (EPA) and Alabama Department of Environmental Management (ADEM)

In 1991, EPA published a regulation to control lead and copper in drinking water. This is known as the Lead and Copper Rule (LCR); ADEM adopted the rule in 1992. The LCR established regulations for 1) water systems to optimize their treatment to control corrosion in their distribution system, 2) source water treatment, 3) lead service line replacement, and 4) public education. The LCR requires systems to sample and monitor levels of lead and copper in drinking water, and provides actions to minimize levels in drinking water if specific levels are found in the sampling and monitoring program. Lead and copper enter drinking water primarily through corrosion of some plumbing or plumbing materials. The action levels are 0.015 mg/L for lead and 1.3 mg/L for copper based on a 90th percentile level in tap water samples. Implementation of this rule is a critical component of ADEM's efforts to protect public health and ensure the safety of our state's drinking water. The following gives more specific information about sampling and public education.

The LCR requires sampling/ monitoring by water systems every three years; some water systems monitor more frequently. The samples are collected from drinking water taps at customers sites with lead service lines or lead-based solder in their plumbing. If lead action levels are exceeded, the water system is required to take additional actions, which may include:

- a. Developing and implementing a plan to optimize corrosion control in the finished drinking water;
- b. Educating their customers about lead and suggesting actions they can take to reduce their exposure to lead through public notices and public education programs;
- c. Replacing the portions of level service lines under the system's control; and
- d. Offering to replace lead service lines under their customers' control at an equitable cost to the customer.

The LCR set criteria for sampling sites, as follows:

1. Tier 1 sites-These sites include single family structures containing lead pipe or plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.
2. Tier 2 sites-These sites include buildings and multiple family residences containing lead pipe or plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.
3. Tier 3 sites-These sites include single family structures containing copper pipes with lead solder which were constructed prior to 1983.

The LCR prescribes a specific sampling protocol for water systems to utilize for collecting lead and copper samples at a residence or business (see below).

1. Tap monitoring (collecting a water sample from a faucet) for lead and copper shall be the first draw and one liter in volume.
2. The water shall stand motionless in the plumbing system for at least six hours prior to collection. Pre-stagnation flushing shall not be performed.
3. Collection shall be from the cold water kitchen tap or bathroom sink tap from tier 1 sites or from an interior tap typically used for obtaining water for consumption from tier 2 and tier 3 sites.
4. Aerators shall not be removed from taps or cleaned prior to or during the collection of samples.
5. Wide-mouth bottles shall be used to collect samples to allow for a higher flow rate during sample collection which is more representative of the flow that a consumer may use to fill a glass or water.
6. Monitoring may be conducted by the resident after proper instructions and procedures have been provided by the water system.
7. Follow up tap monitoring shall be conducted from the same sites.
8. Should a site no longer be available, an alternate acceptable site may be selected which is in reasonable proximity of the original site.
9. Taps used for monitoring may not include faucets that have point of use or treatment devices installed.

EPA published a memo clarifying recommended tap sampling procedure for the LCR on February 29, 2016, to provide recommendations on how public water systems should address the removal of cleaning aerators, pre-stagnation flushing, and bottle configuration for the purpose of the LCR.

More Information on the LCR can be found on EPA's website at: <http://www.epa.gov/dwreginfo/lead-and-copper-rule>

EPA's LCR Quick Reference Guide can be found at: LCR Quick Reference Guide.

More information specifically about your drinking water system can be found in your water system's Annual Consumer Confidence Report (Water Quality Report) available at your water system or on its website. These reports are also submitted to ADEM, so they are available in ADEM's eFile system. You can also find information at EPA's Enforcement and Compliance History Online (ECHO) website at: <https://echo.epa.gov/>.

Huntsville Utilities lead and copper monitoring plan is based on Tier 1 criteria. This follows ADEM regulations for *"Tier one sites ---- "These sites include single family structures containing lead pipe or plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982."* Huntsville Utilities monitoring plan is listed on the following pages.

Huntsville Utilities Lead & Copper Sites

SITE	LEAD SERVICE LINE	COPPER PLUMBING		YEAR BUILT	TIER
1	No	Yes		1984	1
2	No	Yes		1984	1
3	No	Yes		1984	1
4	No	Yes		1984	1
5	No	Yes		1984	1
6	No	Yes		1986	1
7	No	Yes		1986	1
8	No	Yes		1987	1
9	No	Yes		1985	1
10	No	Yes		1985	1
11	No	Yes		1985	1
12	No	Yes		1987	1
13	No	Yes		1987	1
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25	No	Yes		1986	1
26	No	Yes		1985	1
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28	No	Yes		1986	1
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32	No	Yes		1985	1

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40	No	Yes		1985	1
41	No	Yes		1985	1
42	No	Yes		1985	1
43	No	Yes		1987	1
44	No	Yes		1987	1
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85	No	Yes		1984	1
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89	No	Yes		1987	1
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91	No	Yes		1987	1
92	No	Yes		1986	1
93	No	Yes		1983	1
94	No	Yes		1984	1
95	No	Yes		1983	1
96	No	Yes		1983	1
97	No	Yes		1985	1
98	No	Yes		1987	1
99	No	Yes		1985	1
100	No	Yes		1985	1
101	No	Yes		1989	1
102	No	Yes		1984	1
103	No	Yes		1986	1
104	No	Yes		1983	1

CONSUMER INSTRUCTIONS FOR PROPER SAMPLE COLLECTION

Sample ID# _____

Important: please follow these directions carefully to ensure that the results at your residence will be as accurate as possible.

These samples are being collected to determine the Lead and Copper levels in your tap water. This sampling effort is required by the US Environmental Protection Agency (EPA) and the Alabama Department of Environmental Management (ADEM).

We (the water system) will make arrangements with you to deliver the sample bottle to you and to pick up the sample after collection.

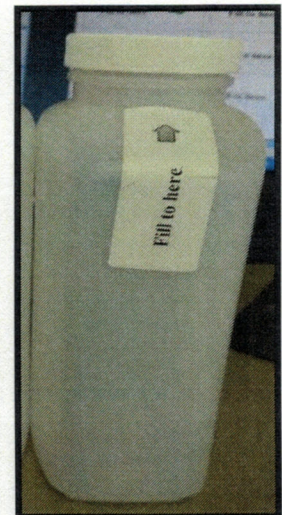
Please use only a cold water tap that is used for human consumption, such as the tap in your kitchen or bathroom. Collect samples from a cold water tap that has not been used for at least 6 hours. The best time to sample is usually first thing in the morning or in the evening upon returning from work.

Lead and Copper Sampling "DO NOT":

- Do not run the faucet at all before collecting the sample.
- Do not use a mop sink, outside faucet, or a tap that is not generally used or intended for human consumption.
- Do not use a faucet at a site which is vacant or from which you have recently been absent.
- Do not use a faucet at a site which has undergone recent (within the last 6 months) plumbing changes
- Do not sample from a tap which is attached to a water softener, filter, or any type of treatment device.
- Do not remove the aerator (screw-on cap at end of faucet) before sampling.

Lead and Copper Sampling Instructions – "DO":

- Use a kitchen or bathroom cold water faucet for sampling.
- Place the opened sample bottle below the faucet and open the cold water tap to a medium flow as you would to fill a glass of water.
- Fill the sample bottle to the bottom of the bottle neck. (The bottle provided has a sticker with an arrow pointing to the neck. See photo below.)
- Cap the sample bottle tightly and put the bottle back in the zip lock bag provided.
- Please complete the table at the bottom of this page and include it with the sample.
- Place the sample bottle and this sheet in the pick-up location previously arranged with the water system.



Results from the Lead and Copper monitoring at your residence will be provided to you by the water system as soon as practical but no later than 30 days after the system is notified of the sample results. However, if excessive levels of lead or copper are detected, you will be notified immediately after analysis (usually one or two days after the system learns of the tap monitoring results).

To be completed by the resident and included with the sample:		
Sample site location and faucet used: (e.g., kitchen sink, bathroom sink)		
Water was last used	Time:	Date:
Sample was collected	Time:	Date:
<i>I have read the above directions and have taken a tap sample in accordance with these instructions.</i>		
Signature:		Date:

Please call _____ (name) at _____ (PWS) at _____ (phone) if you have any questions about these sampling procedures.

NOTE: please give this form to water system with the sample.

Consumer Notification of Lead/Copper Tap Monitoring Results

Date	
From	(water system)
To	(customer)

Our public water supply system is required to periodically collect tap water samples to determine the lead and copper levels in our system. Your residence was selected for this monitoring as part of our system's sampling plan. This notice is provided to you with the analytical results of the tap water sample collected at your home.

Sample address: _____ Sample collection date: _____

Contaminant	Action Level	Unit of Measurement	Results at your home	90 th percentile*	Compliance Violation? (YES or NO)
Lead	0.015	mg/l			
Copper	1.3	mg/l			

Definitions

Action Level (AL): The action level is a concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a public water supply system must follow. The lead action level is 0.015 mg/L. The copper action level is 1.3 mg/L.

Maximum Contaminant Level Goal (MCLG): The maximum contaminant level goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. The MCLG allows for a margin of safety. The lead MCLG is zero. The copper MCLG is 1.3 mg/L.

What are the health effects of lead and how can I reduce my exposure?

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Some individual homes may have high lead concentrations while the 90th percentile value for the entire waterworks is below the Action Level. These individual site lead levels may be due to conditions unique to the individual home, such as the presence of lead solder or brass faucets, fittings and valves that may contain lead. This water system is responsible for providing drinking water that meets all federal and state standards but cannot control the variety of materials used in plumbing components. Our waterworks strives to keep the corrosivity of our water as low as possible (corrosive water can cause lead to leach from plumbing materials that contain lead).

Lead levels in your drinking water are likely to be higher if:

- Your home or water system has lead pipes, or
- Your home has faucets or fittings made of brass which contains some lead, or
- Your home has copper pipes with lead solder and you have naturally soft water, and
- Water often sits in the pipes for several hours.

How can I reduce my exposure? We strongly urge you to review the enclosed Fact Sheet and take the steps listed to reduce your exposure to lead in drinking water. These recommended actions are very important to the health of your family.

Information on lead in drinking water and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

If you have any questions, contact _____ at _____ (phone).

Sincerely,

Fact Sheet: LEAD IN DRINKING WATER

Important Information on How to Protect Your Health

Lead is a common metal that has been in many consumer products but is now known to be harmful to human health if ingested or inhaled. It can be found in lead-based paint, air, soil, household dust, food, some types of pottery, and drinking water. Lead is rarely found in natural sources of water such as rivers, lakes, wells or springs.

What Are The Health Effects of Lead? When people come in contact with lead, it may enter their bodies and accumulate over time, resulting in damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Lead in water can be a special problem for infants, whose diets may be mostly liquids, such as baby formulas or concentrated juices mixed with water. Smaller bodies can absorb lead more rapidly than bigger ones, so amounts of lead that won't hurt an adult can be very harmful to a child and scientists have linked the effects of lead on the brain with lowered IQ in children. During pregnancy, the child receives lead from the mother's bones, which may affect brain development. Adults who drink this water over many years could develop kidney problems or high blood pressure.

What Are The Sources of Lead? The primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated residential soil. Exposure to lead is a significant health concern, especially for young children and infants whose growing bodies tend to absorb more lead than the average adult. If you are concerned about lead exposure, parents should ask their health care providers about testing children for high levels of lead in the blood.

What Can I Do To Reduce Exposure to Lead in Drinking Water? Lead may work its way into drinking water after the water entered the distribution system and is on its way to consumers taps. This usually happens through the corrosion of materials containing lead in household plumbing. These materials include brass faucets, lead solder on copper pipes, lead pipes, or lead service lines connecting the water main to the inside plumbing. Lead pipes are no longer installed for service lines or in household plumbing and lead solder has been outlawed in Virginia since 1985.

There are several steps you can take to reduce your exposure to lead in drinking water. These include:

1. **Run your water to flush out lead.** If water hasn't been used for several hours, allow the water to run at the tap for 15-30 seconds or until it becomes cold or reaches a steady temperature before using it for drinking or cooking. This flushes lead-containing water from the pipes. The water you run from drinking water taps does not have to be wasted. You can use this water for cleaning purposes or for watering plants. You may want to keep a container of drinking water in your refrigerator, so you don't have to run water every time you need it.
2. **Use cold water for cooking and especially for preparing baby formula.** Do not cook with or drink water from the hot water tap as lead dissolves more easily into hot water. *Do not use water from the hot water tap to make baby formula.*
3. **Do not boil water to remove lead.** Boiling water will not reduce lead.
4. **Look for alternative sources or treatment of water.** You may want to consider purchasing bottled water or a water filter. Read the package to be sure the filter is approved to reduce lead or contact the National Sanitation Foundation at 800-NSF-8010 or www.nsf.org for information on performance standards for water filters. If you choose to install a lead removal filter, be sure to maintain and replace a filter device in accordance with the manufacturer's instructions to protect water quality.
5. **Get your child tested.** Contact your local health department or healthcare provider to find out how you can get your child tested for lead if you are concerned about exposure.
6. **Identify if your plumbing fixtures contain lead.** New brass faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. The new lead regulation lowered the maximum lead content of plumbing products from 8.0% to 0.25%, when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.
7. When replacing your bathroom or kitchen faucet, consider a "lead-free" faucet that meets NSF/ANSI Standard 61 Annex G (California), which is less than 0.25% lead by weight
8. Visit the National Sanitation Foundation Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

For more information on reducing lead exposure around your home and the health effects of lead, visit EPA's web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, call your water system, or contact your health care provider.

Instructions: Please list sample sites and results in ascending order from lowest sample result to highest sample result, and circle or highlight your 90th percentile sample result.

ADEM Form #405

Lead and copper Monitoring Data Report

COPPER RESULTS

System Name and PWSID # _____
 Monitoring Period _____

Name and Address of Customer	Tier 1,2, or3	Lead Service Line Sample Yes or No	Date of Collection	Date of Analysis	Copper Results (mg/l)	Year of Plumbing
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

copy for additional sites if necessary

Instructions: Please list sample sites and results in ascending order from lowest sample result to highest sample result, and circle or highlight your 90th percentile sample result.

ADEM Form #405

Lead and copper Monitoring Data Report

LEAD RESULTS

System Name and PWSID # _____

Monitoring Period _____

Name and Address of Customer	Tier 1,2, or3	Lead Service Line Sample Yes or No	Date of Collection	Date of Analysis	Lead Results (mg/l)	Year of Plumbing
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

copy for additional sites if necessary

Water System Materials Inventory

<u>Material</u>	<u>Approximate Quantity</u>
Cast/Ductile Iron	1,288 miles
PVC	49.0 miles
Asbestos Cement	5.3 miles
PE	4.0 miles
Galvanized	0.8 miles
Valves, Fittings, etc.	Unknown