



MUSCLE SHOALS UTILITIES BOARD

Lead and Copper Monitoring Plan

Updated: 2022

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Lead and Copper Rule Overview

EPA promulgated the Lead and Copper Rule (LCR) in 1991, and ADEM adopted the rule in 1992. 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 information outlines how the LCR is implemented and identifies ways for the public to find information about the quality of its drinking water.

- The LCR has four basic requirements:
 1. Require water systems to optimize their treatment system to control corrosion in the distribution system and the customer's plumbing;
 2. Determine tap water levels of lead and copper for customers who have lead service lines or lead-based solder in their plumbing system;
 3. Rule out the source water as a source of significant lead levels; and
 4. 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 lead 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 requires water systems to monitor at least every 3 years. Some water systems monitor more frequently. The water system selects the sites based on criteria set out in the rule. The criteria for the lead and copper sampling sites are:
 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 of 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 EPAs Enforcement and Compliance History Online (ECHO) web site at: <https://echo.epa.gov/>

MSUB Lead and Copper Plan

History:

In 1992, upon ADEM's adoption of the EPA's Lead and Copper Rule, the Muscle Shoals Utilities Board (MSUB) instituted its Lead and Copper Sampling Plan. Management at that time began the process of identifying materials within the following areas: distribution system, customer services and home plumbing. 1992 MSUB management/staff determined, from a variety of sources, that there were no lead service lines or piping within the MSUB water distribution system. 1992 MSUB management/staff also identified 60 Tier 1 lead and copper sample sites. Being a medium size community (10,001 – 50K population), 60 sites were required. These sites were determined, from a variety of sources, to be homes plumbed with copper pipe/lead solder and built after 1982.

In 1993 the MSUB management/staff updated the lead and copper sampling sites. Alternate sites were chosen from the original 60 sites due to some of the original homeowners moving and/or the new homeowners choosing not to participate in the sampling plan. An ADEM memo to the MSUB, dated November 5, 1992, stated that only homes built between 1983 and 1988 were to be included in the updated sampling plan. An MSUB memo to ADEM dated June 25, 1993 stated that, to the best of their knowledge, the sample sites for 1993 met all necessary requirements. 39 of the 1993 Tier 1 sample sites were from the original 60 1992 site locations and 21 sites were added.

After consecutive yearly lead and copper testing in years 1992-1995, with compliant results (i.e. lead and copper results for 3 consecutive years were below the Action Level, Lead/0.015 ppm, Copper/1.3 ppm), a September 11, 1995 memo from ADEM granted the MSUB reduced lead and copper testing. This effectively allowed the MSUB to reduce its testing sites from 60 down to 30 test sites, with sampling only required triennially (every 3 years).

Subsequent to being granted reduced monitoring by ADEM, the MSUB has sampled for lead and copper (to date) in years 1998, 2001, 2004, 2007, 2010, 2013, 2016 and 2019 all with compliant results. Still a medium size community (10,001 – 50K population) on reduced monitoring, 30 sample sites are required for monitoring. MSUB has utilized the same lead and copper sample locations, except one, since the 1993 Tier 1 site determinations. The one exception, in 2001, was due to a homeowner moving and the new resident choosing not to participate in the sampling program, resulting in an alternate Tier 1 location being utilized. More recently, MSUB has had to utilize some Tier 2 sites (with ADEM's approval) to meet the required 30 LCR test sites. This was primarily due to original Tier 1 sites not meeting the correct criteria and/or the customer's refusal to participate in the LCR sampling plan.

At this time, the MSUB continuously applies a phosphate type corrosion inhibitor. ADEM Code 335-7-11-.12 states that *"a water system is considered to meet optimum corrosion control when the distribution system: 4. A phosphate or silicate corrosion inhibitor is continuously applied at the manufacturer/supplier recommended level resulting in minimum complaints and the water continuously meets the lead and copper compliance limits."* Currently, MSUB is meeting this requirement for corrosion control.

Procedures:

1. Lead and copper sampling will continue every 3 years within the months of June - September. Sample collection is performed by the resident at each of our 30 sampling sites. Written homeowner tap collection procedures are provided to each resident as well as the appropriate sample containers.
2. Each sample site is to be evaluated every three years to ensure compliance with the LCR Tier 1, 2 or 3 rating system.
3. Each sample is to be tested by a certified testing laboratory. Currently, MSUB utilizes TTL, Inc. in Tuscaloosa, AL for all lead and copper testing.
4. Each homeowner that has participated in the sampling program is to be provided with the results of the lead and copper testing within 30 days of learning the results. Also, all results of the testing are provided in the consumer confidence report (CCR) provided annually by MSUB to all customers.

Current Lead & Copper Sample Sites

Tier 1 Sites

2103 Jennifer Ave. - 1988	2213 Jennifer Ave. -1984	2210 Robbie Ave. – 1988
1704 Marietta Ave. – 1984	2211 Marietta Ave. - 1984	1505 Brookford Place – 1985
2214 Jackson Ave. - 1986	2202 Jackson Ave. – 1988	2218 Marietta Ave. – 1986
2216 Virginia Ave. – 1985	2210 Edwards Ave. - 1984	1201 Brookford Place – 1986
600 Firestone Ave. – 1987	400 Park Ave. – 1987	307 Park Ave. – 1988
1011 Dearborn Ave. – 1987	609 Clark Ave. - 1986	305 Laurel Oak Dr. - 1988
203 Lonnie Dr. - 1986	105 Lagrange Dr. – 1984	106 Lagrange Dr. – 1986
602 Hickory Ave. – 1988	2305 E. 6 th St. – 1987	

Tier 2 Sites (Arbor Village Apts., 400 Firestone Ave.)

Unit #209 – 1987	Unit #104 – 1987	Unit #101 – 1987
Unit #201 – 1987	Unit #103 – 1987	Unit #213 – 1987
Unit #207 - 1987		

Tier 2 Back-Up Sites (Arbor Village Apts., 400 Firestone Ave.)

Unit #102, 204, 205, 208, 214

Tier Ratings for Sample Sites

Each sample site has previously been evaluated by prior MSUB management/staff for compliance with an LCR Tier 1 or 2 rating. The following methods were utilized in making those determinations:

1. Customer Interviews
2. Utility Records, including meter set sheets and customer deposit ledgers
3. Interviews with senior personnel
4. Mailings to homeowners asking for participation in the lead and copper plan.

The following Sample Site Worksheet (on the following page) should be utilized in evaluating potential sample sites and for re-evaluating current sample sites for rating each sample site per the Tier 1, 2 or 3 classification.

Note: Completed Forms are in Appendix D

**MUSCLE SHOALS UTILITIES BOARD
LEAD & COPPER RULE
SAMPLING SITE WORKSHEET**

PWS ID NUMBER: _____

Customer Name & Address: _____

Year Home Was Built: _____

Plumbing Material	Type of Structure		
	Tier 1	Tier 2	Tier 3
Interior Plumbing:			
Lead Pipe			
Copper Pipe With Lead Solder >1982			
Copper Pipe With Lead Solder <1983			
Lead Service Line? YES NO			
Entire Line?			
Partial Line?			

Tier 1 Site – Single family structures containing lead pipe/plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.

Tier 2 Site – Multi-family residences containing lead pipe/plumbing, are served by a lead service line, or contain copper pipes with lead solder and were constructed after 1982.

Tier 3 Site – Single family structures containing copper pipes with lead solder constructed prior to 1983.

Sources explored to determine sampling eligibility and Tier ranking:

- Customer Interviews
- County tax records
- Original 1992 sampling sites

- Utility records
- Interviews with senior personnel
- 1993 Updated sampling sites

Completed By: _____ Date: _____

Signature: _____

Customer Signature: _____ Date: _____

Comments: _____

The Utilities Board

City of Muscle Shoals

Phone (256) 386-9260

P.O. Box 2648
2001 Wildwood

Fax (256) 386-9261

MUSCLE SHOALS, ALABAMA 35662

To: Muscle Shoals Utilities Board Customer

Re: Lead and Copper Sampling Sites

The Muscle Shoals Utilities Board (MSUB) will be sampling for Lead and Copper in our drinking water this summer. MSUB is required by the EPA's Lead and Copper Monitoring Rule to conduct this monitoring every three years. Your home is one of thirty residences that has been chosen for sampling in the past. In order to update our records, we are asking for your help by completing the enclosed Lead and Copper Sampling Site Worksheet. If the checked and/or circled information is correct, please sign and date the form and return it to the MSUB. We have enclosed a self-addressed, stamped envelope for your convenience. If your information HAS NOT CHANGED and is correct as listed, we will most likely be testing at your residence again this year. You will be contacted in early June by mail or phone as to when we will be collecting samples. After sampling is completed, you will be provided the results of the lead and copper monitoring. This will let you know what the lead and copper levels in your home's drinking water. Also, please provide us with an active and correct phone number so we can contact you when it is time to begin the sampling program. If you have any questions, please do not hesitate to call Mr. Brian Barton at 256-386-9263, ext. 1 or 256-702-2766.

Thank you for your cooperation!

Brian Barton
Chief Operator, Water Operations

Suggested Directions for Homeowner Tap Sample Collection Procedures
Revised Version: February 2016

These samples are being collected to determine the lead and copper levels in your tap water. This sampling effort is required by the U.S. Environmental Protection Agency and your State under the Lead and Copper Rule, and is being accomplished through a collaboration between the public water system and their consumers (e.g. residents).

Collect samples from a tap that has not been used for at least 6 hours. To ensure the water has not been used for at least 6 hours, the best time to collect samples is either early in the morning or in the evening upon returning from work. Be sure to use a kitchen or bathroom cold water tap that has been used for drinking water consumption in the past few weeks. The collection procedure is described below.

1. Prior arrangements will be made with you, the customer, to coordinate the sample collection. Dates will be set for sample kit delivery and pick-up by water system staff.
2. There must be a minimum of 6 hours during which there is no water used from the tap where the sample will be collected and any taps adjacent or close to that tap. Either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist. Do not intentionally flush the water line before the start of the 6 hour period.
3. Use a kitchen or bathroom cold-water faucet for sampling. If you have water softeners on your kitchen taps, collect your sample from the bathroom tap that is not attached to a water softener, or a point of use filter, if possible. Do not remove the aerator prior to sampling. Place the opened sample bottle below the faucet and open the cold water tap as you would do to fill a glass of water. Fill the sample bottle to the line marked "1000-mL" and turn off the water.
4. Tightly cap the sample bottle and place in the sample kit provided. Please review the sample kit label at this time to ensure that all information contained on the label is correct.
5. If any plumbing repairs or replacement has been done in the home since the previous sampling event, note this information on the label as provided. Also if your sample was collected from a tap with a water softener, note this as well.
6. Place the sample kit in the same location the kit was delivered to so that water system staff may pick up the sample kit.
7. Results from this monitoring effort and information about lead will be provided to you as soon as practical but no later than 30 days after the system learns of the tap monitoring results. However, if excessive lead and/or copper levels are found, immediate notification will be provided (usually 1-2 working days after the system learns of the tap monitoring results).

Call _____ at _____ if you have any questions regarding these instructions.

TO BE COMPLETED BY RESIDENT	
Water was last used:	Time _____ Date _____
Sample was collected:	Time _____ Date _____
Sample Location & faucet (e.g. Bathroom sink): _____	
I have read the above directions and have taken a tap sample in accordance with these directions.	
Signature _____	Date _____

The Utilities Board

City of Muscle Shoals

Phone (256) 386-9260

Fax (256) 386-9261

P.O. Box 2648
2001 Wildwood
MUSCLE SHOALS, ALABAMA 35662
www.muscleshoalswater.org

LEAD AND COPPER MATERIALS INVENTORY

PWSID: AL0000321

As of June 8, 2022, The Utilities Board of the City of Muscle Shoals has approximately 167 miles of water lines in its distribution system serving approximately 7,649 customers. The 167 miles of water lines are comprised approximately of the following:

- 42 miles Cast Iron
- 25 miles Ductile Iron
- 87 miles PVC
- 12 miles Galvanized
- 0.34 miles C-900 Plastic
- 0.23 miles Copper
- 0.002 miles Stainless Steel

Based upon departmental records, the Utilities Board does not have any lead piping or service lines within its system. The Utilities Board does have brass components that may contain lead alloys. All brass materials installed after January 4, 2014 conform to the “Reduction of Lead in Drinking Water Act” and carries the NSF/ANSI 61-G low - lead certification. Approximately 686 of our customer’s services currently meet this requirement.

A majority of our customer’s service lines are copper, but some could be galvanized pipe, high-density polyethylene (HDPE) pipe or PVC pipe. In the City of Muscle Shoals plumbing within private property can contain copper piping with lead solder, home plumbing with lead and/or copper alloys/components.

**MSUB Distribution
Line Sizes/Material
6/8/2022**

Line Size	Material	Length (feet)	Length (miles)
3/4"	Copper	271.11	0.05
3/4"	Galvanized	801.47	0.15
3/4"	PVC	168.82	0.03
1"	Copper	819.35	0.16
1.25"	Galvanized	3.83	0.00
1.5"	Galvanized	450.94	0.09
2"	Cast Iron	2,180.79	0.41
2"	Copper	127.57	0.02
2"	Galvanized	62,031.37	11.75
2"	PVC	139,030.97	26.33
2"	Stainless Steel	11.55	0.00
3"	Ductile Iron	20.69	0.00
3"	PVC	31,497.80	5.97
4"	Cast Iron	20,074.15	3.80
6"	C-900	216.33	0.04
6"	Cast Iron	126,039.86	23.87
6"	Copper	8.61	0.00
6"	Ductile Iron	12,514.13	2.37
6"	PVC	142,764.84	27.04
8"	Cast Iron	37,242.13	7.05
8"	Ductile Iron	23,770.02	4.50
8"	PVC	124,145.60	23.51
10"	C-900	1,592.89	0.30
10"	Cast Iron	10,739.46	2.03
10"	Ductile Iron	4,248.45	0.80
10"	PVC	9,924.73	1.88
12"	Cast Iron	25,586.12	4.85
12"	Ductile Iron	56,140.71	10.63
12"	PVC	10,681.69	2.02
16"	Ductile Iron	28,472.23	5.39
24"	Ductile Iron	9,169.54	1.74
		880,747.75	166.81

Material	Length (feet)	Length (miles)
C-900	1,809.22	0.34
Cast Iron	221,862.51	42.02
Copper	1,226.64	0.23
Ductile Iron	134,335.77	25.44
Galvanized	63,287.61	11.99
PVC	458,214.45	86.78
Stainless Steel	11.55	0.0022
	880,747.75	166.81

Customer service lines can be comprised of the following:

Copper, galvanized or plastic material

Customer metering/appurtenances can be comprised of the following:

Brass, bronze, steel or plastic material

To the best of management/staff knowledge, MSUB has no lead service lines.

Original 60 LCR 1992 Sampling Sites

203 Brooke Dr.	2108 Jennifer Ave.	1201 Brookford Place
108 Murray Dr.	2305 E. 6 th St.	403 Madison Ave.
300 Anna St.	109 A.C. Curry Dr.	2210 Robbie Ave.
215 Brooke Dr.	303 Monroe Ave.	101 Sheridan Ave.
1612 E. 6 th St.	2500 E. Avalon Ave.	2211 Edwards Ave.
2216 Virginia Ave.	600 Firestone Ave.	2209 Robbie Ave.
2211 Marietta Ave.	110 Willow Oak Dr.	609 Clark St.
1104 E. Highland Ave.	409 Park Ave.	400 Park Ave.
307 Park Ave.	207 Park Ave.	1704 Marietta Ave.
2211 Robbie Ave.	404 Union Ave.	110 Hickory Dr.
110 Brooke Dr.	2219 Jennifer Ave.	2305 Marietta Ave.
2217 Jennifer Ave.	2213 Jennifer Ave.	2216 Jennifer Ave.
600 Firestone Ave. #206	105 S. King St.	602 Hickory Dr.
1603 Gusmus Ave.	603 Hickory Ave.	1710 Jackson Ave.
2200 Jackson Ave.	1701 Jackson Ave.	208 Brooke Dr.
117 Willow Oak Dr.	103 Chase Dr.	305 Laurel Oak Dr.
206 Park Ave.	1505 Brookford Place	204 Lonnie Dr.
2103 Jennifer Ave.	310 Fulton St.	1309 Midland Ave.
2208 Harding Ave.	402A Monroe Ave.	316 Airport Rd.
915 Midland Ave.	2202 Jackson Ave.	2120 E. 2 nd St.

Updated 60 LCR 1993 Sampling Sites

2216 Marietta Ave.	319 Lonnie Dr.	304 Girard Ave.
2210 Edwards Ave.	2218 Marietta Ave.	407 Girard Ave.
308 E. Girard Ave.	2214 Jackson Ave.	2211 Jackson Ave.
314 W. Washington Ave.	106 Willow Oak Dr.	2120 E. 6 th St.
1708 Jackson Ave.	1201 Brookford Place	609 Clark St.
109 A.C. Curry Dr.	105 S. King St.	203 Lonnie Dr.
316 Airport Rd.	2208 Harding Ave.	110 Willow Oak Dr.
2219 Jennifer Ave.	2305 E. 6 th St.	400 Park Ave.
1704 Marietta Ave.	2216 Virginia Ave.	2209 Robbie Ave.
1505 Brookford Place	2200 Jackson Ave.	2211 Marietta Ave.
2210 Robbie Ave.	2216 Jennifer Ave.	2202 Jackson Ave.
117 Willow Oak Dr.	207 Park Ave.	215 Brooke Dr.
110 Hickory Dr.	603 Hickory Dr.	602 Hickory Dr.
2217 Jennifer Ave.	2103 Jennifer Ave.	2305 Marietta Ave.
2223 Jackson Ave.	1701 Jackson Ave.	305 Laurel Oak Dr.
1507 Firestone Ave.	401 Park Ave.	203 Brooke Dr.
600 Firestone Ave.	105 Lagrange Dr.	1710 Jackson Ave.
307 Park Ave.	1612 E. 6 th St.	2213 Jennifer Ave.
600 Firestone # 802	2219 Jackson Ave.	2120 E. 2 nd St.
106 Lagrange Dr.	1011 Dearborn Ave.	310 Fulton St.

Lead and Copper Results Delivery Certification Consumer Notification Completion Report

PWS Name: _____ PWSID: _____

Population: _____

DELIVERY METHOD

Waterworks serving a population greater than 3,300 people:

The occupants of each lead and copper sampling location were notified by U.S. Mail on _____ (date).

Waterworks serving a population of 3,300 or fewer people (choose either delivery method):

The occupants of each lead sampling location were notified by U.S. Mail on _____ (date).

The occupants of each lead sampling location were notified by hand/direct delivery on _____ (date).

I certify that each residence from where lead and copper tap water samples were collected has been informed of their lead and copper monitoring results along with the following information: MCLGs, ALs and their definitions, fact sheet on the health effects of lead which includes steps to reduce exposure to lead in drinking water, and contact information for the water utility. I further certify that notification was completed within 30 days after our system learned of the results from the Office of Drinking Water, and that if the residence is a rental property, both the occupant(s) and rental property owner were notified.

Signature: _____ Print Name: _____

Job Title: _____ Phone: _____ Date: _____

INSTRUCTIONS:

1. Complete this form.
2. Include with this form a completed copy of the following documents:
 - The "Consumer Notification of Lead/Copper Tap Monitoring Results"
 - The "ADEM Form 405"
 - Your Lead/Copper monitoring results from your lab
3. Within three months from the end of the monitoring period, mail this form with attachments to:

Please make sure you upload your documents to the eDWR website:
<https://app.adem.alabama.gov/edwr/default.aspx>

Date	
From	(water system)
To	(customer)

Consumer Notification of Lead/Copper Tap Monitoring Results

We appreciate your participation in the lead and copper tap monitoring program. This letter is to report the lead and copper results from the sample collected at your residence (address), _____ on _____ (date).

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

Under the authority of the Safe Drinking Water Act, the Environmental Protection Agency (EPA) set the Action Level for lead in drinking water at 0.015 mg/l (milligrams per liter) and the Action Level for Copper at 1.3 mg/l. The Action Level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Important Health Information about Lead

* Utilities must ensure that water from the customer's tap does not exceed the Action Level for lead in at least 90 percent of the homes sampled (90th percentile value). Because lead may pose serious health risks, the EPA also set a Maximum Contaminant Level Goal (MCLG) for lead of zero. The MCLG is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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. 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).

Additionally, there are actions you can take to reduce your 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.

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 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 law currently allows end-use brass fixtures, such as faucets, with up to 8% lead to be labeled as "lead free." Visit the National Sanitation Foundation Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

For More Information

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.

Lead and Copper Results Delivery Certification Consumer Notification Completion Report

PWS Name: Muscle Shoals Utilities Board PWSID: 0000321

Population: 23,000

DELIVERY METHOD

Waterworks serving a population greater than 3,300 people:

The occupants of each lead and copper sampling location were notified by U.S. Mail on 09/14/2022 (date).

Waterworks serving a population of 3,300 or fewer people (choose either delivery method):

The occupants of each lead sampling location were notified by U.S. Mail on _____ (date).

The occupants of each lead sampling location were notified by hand/direct delivery on _____ (date).

I certify that each residence from where lead and copper tap water samples were collected has been informed of their lead and copper monitoring results along with the following information: MCLGs, ALs and their definitions, fact sheet on the health effects of lead which includes steps to reduce exposure to lead in drinking water, and contact information for the water utility. I further certify that notification was completed within 30 days after our system learned of the results from the Office of Drinking Water, and that if the residence is a rental property, both the occupant(s) and rental property owner were notified.

Signature: Brian Barton Print Name: Brian Barton
Job Title: Chief Operator Phone: 256-386-9263 Date: 09/30/2022

INSTRUCTIONS:

1. Complete this form.
2. Include with this form a completed copy of the following documents:
 - > The "Consumer Notification of Lead/Copper Tap Monitoring Results"
 - > The "ADEM Form 405"
 - > Your Lead/Copper monitoring results from your lab
3. Within three months from the end of the monitoring period, mail this form with attachments to:

Please make sure you upload your documents to the eDWR website:
<https://app.adem.alabama.gov/edwr/default.aspx>