

DATA INFORMATION REQUEST
Missouri-American Water Company
WR-2017-0285

FILED
March 22, 2018
Data Center
Missouri Public
Service Commission

Requested From: Tim Luft
Date Requested: 2/13/18

Information Requested:

Please produce a copy of any and all written supervisory policies, written procedures, or written practices relating to the replacement of customer-owned lead service lines. Please limit this request to 1.5 years from the date this data request is issued. If multiple versions of such policies, please produce each version and designate by date.

Requested By: Ryan Smith - Office of Public Counsel – Ryan.Smith@ded.mo.gov

Information Provided:

Please see response to MoPSC S0012 in Case No. WU-2017-0296, included here as OPC 0016_Attachment.

Responsible Witness: Bruce Aiton

MAWC Exhibit No. 40
Date 3-5-18 Reporter Becca T.
File No. WR-2017-0285 et al

MoPSC S0012

DATA INFORMATION REQUEST
Missouri-American Water Company
WU-2017-0296

Requested From: Tim Luft
Date Requested: 6/2/17

Information Requested:

Please provide written procedure(s) and instructions for work crews, contractors and field supervisors pertaining to checking and documenting observations of the condition of and the composition of any water service line encountered during field excavation work; also, please provide written procedure(s) and instructions for when such observation results in a determination that a lead service line is involved. Include all procedures and instructions related to company-owned service lines, customer-owned service lines, and portions of service lines both upstream and downstream of meter settings.

Requested By: James Merciel – Missouri Public Service Commission –
James.Merciel@psc.mo.gov

Information Provided:

Each project will have a MAWC (Missouri-American Water Company) representative on site.

See MoPSC S0012_Attachment 1 for the data sheet completed in the field during the field investigation process to determine if lead is present in the service line this applies to both company-owned and customer-owned service lines.

See MoPSC S0012_Attachment 2 for the data sheet completed in the field when the lead is replaced on the service line (Service Line tap transfer)

Due to service line ownership, the procedure for lead service line replacement will vary slightly between St Louis and our other operating districts. St Louis service line procedure is completed as it relates to water main replacement projects. In process of developing the other district procedures. See MoPSC S0012_Attachment 3 for the written procedure for lead service line determination and replacement in conjunction with water main replacement projects

St Louis.

See MoPSC S0012_Attachment 4 for Door Hanger “A” NO-LEAD service line flushing instructions.

See MoPSC S0012_Attachment 5 for Service Line Replacement License

See MoPSC S0012_Attachment 6 for Important Notice about your water information sheet and flushing instructions after lead service is replaced.

See MoPSC S0012_Attachment 7 for Lead fact sheet informational data.

See MoPSC S0012_Attachment 8 for Lead service line sample collection process after service line replacement

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Project Name: Oakwood Ave

Project Manager: Debbie L Maurer

33STER GROVES

Old Water Main Installation Date: _____

Address	Bill Class	Transfer	Tap Size	Tap Location	Tap Set Date	Mat	Mat. at Main	Mat. Main Side T-Head	Mat. Cust Side T-Head
Blvd 1 - Residential		<input checked="" type="checkbox"/>			1997-02-06		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Blvd 2 - Commercial		<input checked="" type="checkbox"/>			1975-08-11		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1988-07-08		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1989-02-24		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1974-05-10		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1974-05-10		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>	1		1975-03-26		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1976-06-15		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1975-08-18		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1997-02-07		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1973-04-26		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1984-12-10		<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper	<input type="checkbox"/> Lead Galv. <input type="checkbox"/> Copper

Address	Bill Class	Transfer	Tap Size	Tap Location	Tap Set Date	Mat	Mat. at Main	Mat. Main Side T-Head	Mat. Cust Side T-Head
Ave 1 - Residential		<input checked="" type="checkbox"/>			1999-07-02		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1974-02-08		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1974-05-06		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>	3/4	IN S SIDE OF A 4" CI MAIN ON OAKWOOD AVE 58FT E OF CL OF FAIRLAWN AVE	2008-06-02		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1976-07-30		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1988-07-07		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>	3/4	NORTH SIDE OF 12 CI MAIN ON OAKWOOD, 150' EAST OF FAIRLAWN	2008-04-23	CU	Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			2000-11-20		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1975-02-19		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1973-03-10		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1974-07-29		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1973-03-10		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			2000-07-21		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper
Ave 1 - Residential		<input checked="" type="checkbox"/>			1993-06-08		Lead Galv. Copper	Lead Galv. Copper	Lead Galv. Copper

SERVICE LINE TRANSFER TAP FORM

Plumber: _____ Excavation Permit: _____

New Tap Location: _____ * (For Dual Meter Sets)

Service Address(*s): 1.) _____ 2.) _____ Premise(*s) # 1.) _____

Number of Taps: _____ Date Tap Made: ____/____/____ Tap Size: _____ 2.) _____

Located on the _____ side of ____ inch _____ main on the _____ side of _____

_____ feet N / S / E / W of the Centerline of _____

_____ feet N / S / E / W of the Centerline of _____

New Main Size: _____ In. New Main Material: _____ Main Depth: _____ In. (Circle all that apply for Method of installation)

Service Line Size: _____ In. Service Line Depth: _____ In. Method of installation: trenchless/ hand excav./ equip excav.

Service Line Material:

Main To Stop/ Curb Box:

- Copper Galv.
 PVC Lead
 HDPE

Stop/ Curb Box To Meter Box:

- Copper Galv.
 PVC Lead
 HDPE

Meter Box To Foundation:

- 1.) Copper Galv. 2.) Copper Galv.
 PVC Lead PVC Lead
 HDPE HDPE

"Unless Meter is in Basement/crawlspace"

Type of service line material connected to inside premise "If entire lead service is replaced"

- 1.) Copper Galv. 2.) Copper Galv.
 PVC Lead PVC Lead
 HDPE N/A HDPE N/A

Main To Stop/ Curb Box:	_____ Feet
Stop/ Curb Box To Meter Box:	1). _____ 2). _____ Feet
Foundation To Meter Box:	1). _____ 2). _____ Feet
Length of abandoned lead service line material left in ground:	1). _____ 2). _____ Feet

Stop/ Curb Box to Curb:	_____ Feet
Stop/ Curb Box To Prop Line:	_____ Feet
Stop/ Curb Box To Centerline:	_____ Feet
Flushing location and minutes flushed if lead service line replaced:	1). _____, Min. _____ 2). _____, Min. _____

SERVICE TRANSFER			
Qty		Size	Material
-		"	SERVICE LINE INSULATOR
-		"x"	SERVICE SADDLE
-		"	CORP
-		"x"	TAILPIECE
-		"x"	COPPER TO COPPER UNION
-		"	CURB/STOP VALVE
-		"	TYPE K COPPER SERVICE MATERIAL
-		"	HDPE SERVICE MATERIAL

METER SET			
Qty		Size	Material
-		"x"	METER TILE
-		"	METER BOX FRAME COVER
-		"	COPPER SETTER
-		"	ANGLE VALVE
-			CURB BOX COMPLETE

Tap Comments: _____

Sketch: "optional"

LEAD SERVICE LINE REPLACEMENT IN CONJUNCTION WITH WATER MAIN REPLACEMENT PROJECT (ST LOUIS OPERATIONS)

Limits of Service line replacement:

Replace lead portion of the service line.

Lead service material exist after stop box/curb stop-customer side: Replace service from new water main to customer's residence. *If the premise has a water meter in the basement and we are replacing the entire lead water service we will provide as an option to set the meter outside in a meter box.*

Galvanized material exist prior to stop box/curb stop-main side: Replace service from new water main to stop box/curb stop. Only replace this portion if the service is on the same side of roadway as the new main installation. If the buildings water service crosses the roadway to the opposite side of the street, we will only be replacing the portion of the water service line that contains lead, which is typically the lead gooseneck.

Replacing the lead water service through the foundation wall to the interior shutoff valve in the building, the following factors are required:

- Where allowed by the local plumbing jurisdiction to run the same material through the foundation wall to the interior shut off valve. **The use of non-metallic water service line material will require the plumber to have electrician provide an alternate grounding method of the buildings electrical system to meet building code. Proper PPE is to be utilized for possible grounding issues.**
- Where allowed by local plumbing jurisdiction, not being required to bring any other part of the internal plumbing up to current code once entering the foundation of the building.
- Basement is not finished in the area where the water service comes through the foundation wall.
- The crawl space or basement must be accessible without confined space entry requirements.

Previous mentioned factors not met would require connection of the water service on the outside of the foundation wall of the building. **(This will still require an electrician to verify that the buildings ground was not compromised if utilizing non-metallic service line material.)** Check with local **building code requirements.** When replacing the water service through the foundation wall no internal customer plumbing is to be replaced with exception to the internal shutoff valve near the foundation wall.

Process steps to replace lead service as part of water main replacement project

- AOI (Areas of Interest) in GIS of project entered and all attributes updated.
- Review current service line/ tap records to identify any lead utilized in existing installation.
- Create WBS, Notification(s) and Service Order for project
- Initial communication letter sent to customer 45 days in advance (Preferred).
- CodeRED notification sent to all customers within the project limits notifying them of the upcoming project and project contact information.
- Prior to commencing the water main replacement project field investigate the water services on the project to verify if any lead is present. The tap records may be incorrect.
- *Edit Tap Points in the field either electronically or hard copy (Attributes: type of service line material on Customer side, Main side and at corporation. Update type of interaction with customer: Door, In- person, Phone, other) (Future step in the process)*
- If you discover no lead on the water service during the field investigation, then use door hanger "A" NO-LEAD (attached).
- If you discover lead on the water service line during the field investigation then notify the customer of the findings.
- **(Only do if lead is found within the project limits)** CodeRED notification sent to all customers within the project limits notifying them that as part of our project we have been checking service line material to their house to see if lead is present. Use screen shot of affected area from initial CodeRED. Also includes on site Supervisor name and contact information.
- Notify WQ the number of sample bottles needed for a pre and post sample for each lead service line that will be replaced. Be sure to order additional sample bottles in case additional sampling is required to reduce time in receiving sample bottles.
- Present the OWNER of the property the "Service Line Replacement License" (License) for acceptance or denial.
- ****Execution of the License is required prior to commencing the lead service line replacement.****
- Provide the customer/owner the "Important Notice about Your Water "and "Lead" facts sheets. This includes flushing instructions and if possible discuss with customer in person notifying them the plumber will be coordinating the flushing and sample collections with them. See Documents attached to this process. *Plumber will perform all flushing and sample collections.
- *Notify CSC of customer interactions and acceptance or non- acceptance of the agreement and date of signature at the time the agreement is accepted or not for each premise.
- Modify the originally created SAP notification and Service Order short description to identify "lead" services on project.
- Create contract and VOW purchase order for plumbing company to replace lead service line, if contract is not already in place.
- ***Send registered mail to the OWNER of the property where we have not had a response on receiving the Service Line Replacement License. In the mail include the "Service Line Replacement License" (License) for acceptance or denial along with Ops Supervisor name and contact information.* This will be the last attempt prior to starting the lead service line replacements to collect the License.**
- Acquire all necessary permits for water service line replacement. May require plumber to hire electrician and permit to re-establish building ground per code.

- Provide plumber "Post Flush" Sample #1 and "Water Unused for 6 Hours" Sample #2 sample instructions and sample bottles. Update contact information (shown in yellow highlight on attachment). *Documents attached –Interim process. Plumber will coordinate and perform all flushing and Sample #1 and Sample #2 collection. All samples to be collected from cold side kitchen faucet. All information on sample bottles to be printed and legible.*
- Perform lead service line replacement. (Ensure plumber is utilizing the proper cutting tools to minimize the amount of lead displaced from the cut and reduce the amount of lead charges from accumulating into the remaining service line. Proper PPE shall be worn while working with lead service line materials.)
- Take pictures of premise with house number visible for each lead service replaced along with pictures of test pits and meter pit area showing new service piping ends and old lead pipe if in same location and also picture of connection to existing service line material. *"(Service lines pictures)"*
- Collect as built information and/or GPS data on new service.
- Service line tap transfer form is completed with all new service line data. (attached)
- Plumber to install the correct dialectic union when transitioning over from one water service line material to another.
- Plumber to coordinate with the customer/owner for plumber to perform initial 30 minute flush of the newly installed water service line from the closest available cold water supply to where the water lines comes into the building. Meter to be removed and jumper installed during flushing to increase flushing velocity and reduce potential damage to meter.
- Plumber to coordinate with the customer/owner for plumber to perform whole building flush after initial 30 minute flush beginning at lowest level of building and remove all faucet aerators from cold side supply and let run for 30 minutes at the last tap area opened (top floor).
- Plumber to obtain "Post Flush" sample, Sample #1. Sample to be taken to the lab on the same day collected.
- Plumber to coordinate with the customer/owner for plumber to perform Resident Sample "Water Unused for 6 hours sample" Sample #2 collection. The "Water Unused for 6 hours" sample, Sample #2 is to be collected within 72 hours (3 days) of the lead water service line replacement. Ideally, Sample #2 should be collected after the water has sat for a minimum of 6 hours. The sample must be collected on the cold side of the Kitchen faucet. Sample to be taken to the lab on same day as collected.
- Recommend customer/owner refer to the lead fact sheet to minimize lead exposure.
- If results of samples taken are not acceptable, plumber to repeat flushing / sample (up to 2 times for whole house if greater than LAL (Lead Action Level) or recommended by WQ.
- WQ (Water Quality) to notify customer/owner of findings from samples taken.
- WQ enters customer interaction record of the sample results.
- Assemble information packet, which shall include the following items: executed License, Service Line Pictures, combine with service tap transfer form as-built information and WQ results. Scan to Network utilizing Premise number.
- Update SAP with new service line information

IMPORTANT NOTICE ABOUT YOUR WATER

Dear Valued Customer,

As part of our routine improvements to ensure the quality and pressure of your water service, Missouri American Water is upgrading our infrastructure. Today, we connected your customer-owned service line to the company's new main in the street. Some sediment or debris may have come loose during this process.

You should flush your household plumbing BEFORE you consume tap water or use hot water. For example, this includes drinking, cooking, making baby formula, filling pet bowls, or using icemakers, filtered water dispensers or appliances requiring water.

1. Start by finding the closest available cold water tap to where the water line comes into the home (such as an outside hose bib or laundry/utility sink). If using outside faucet, please use hose to direct water away from your home.
2. Remove faucet aerator, and if applicable, bypass any home treatment unit. Then fully open the cold water tap and let the water run for at least 5 minutes.¹

Monitor tap and drain to prevent overflows.

For more information on your water quality, call us or visit us online at www.missouriamwater.com. Under Water Quality & Stewardship, select Water Quality Reports.

¹Source: Environmental Protection Agency (EPA),
<https://www.epa.gov/il/advice-chicago-residents-about-lead-drinking-water>.

Date: ____/____/20____ Time: _____ a.m. / p.m.

MO.STL.FLA.D.04.16



WATER SERVICE LINE REPLACEMENT LICENSE

(St Louis Only)

The undersigned _____ and _____ (collectively "Customer") grants to Missouri-American Water Company ("Company") and to its approved contractors and/or subcontractors a license to enter upon Customer's property at _____, Missouri _____ ("Property") for the purpose of connecting Customer's residence to a Company water main adjacent to the Property, at no cost to Customer. The term of this license shall be six (6) months following the date set forth below. Customer represents that _____ is/are the sole owner(s) of the Property and has/have sole authority to agree to this License.

Customer agrees and accepts this replacement license: YES NO

Company or its approved contractors and/or subcontractors will replace a portion of Customer water service line to remove lead from the existing water service line from the Company water main located near the Customer's property line in public street right of way /easement to the Customer's residence, at no cost to Customer. The Customer water service line is currently and will continue to be owned and maintained by Customer. If the work is performed by a third party contractor, Customer consents to the release of the contact information provided in this release to be provided to the contractor.

Upon completion of the work necessary to effect the new connection, Company will restore Customer's Property as nearly as practicable to its former condition.

Customer acknowledges that _____ has/have received the "Important Notice About Your Water" and "Lead" fact sheets provided by Company.

In consideration for performing the work to replace the lead contained within the portion of the Customer water service line at Company's cost, Customer agrees to indemnify, release and hold harmless Company and its affiliates and agents from and against all claims, liability and costs ("Claims") resulting from acts and omissions of Company and/or its approved subcontractors in installing the Customer water service line; however, Customer shall have no duty to indemnify Company for any Claims that result from the negligence, wrongful act, or omission of the Company including its representatives, subcontractors, successors and assigns. Notwithstanding the foregoing, Company warrants the workmanship of its installation of the portion of the Customer water service line replaced for a period of 12 months following the date set forth below, with Company's liability limited to the cost of repairing or replacing the portion of the Customer water service line containing lead that was replaced as part of this agreement.

DATE: _____ CUSTOMER PHONE #: _____
HOME CELL

CUSTOMER:

[Print Name] [Print Name]

MISSOURI-AMERICAN WATER COMPANY

By: _____

[Print Name and Title]

IMPORTANT NOTICE ABOUT YOUR WATER



Dear Valued Customer,

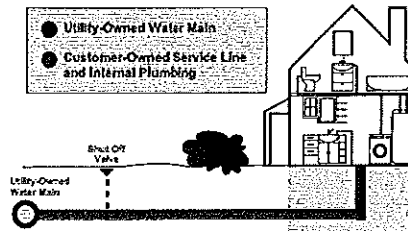
As part of our routine improvements to ensure the quality and pressure of your water service, Missouri American Water is upgrading our infrastructure. Today, we evaluated your customer-owned water service line. Here's what we found.

- We identified that your customer-owned service line may contain lead.

Missouri American Water Company is planning on replacing a portion of the customer-owned water service line that contains lead. This will occur when we reconnect your water service line to the newly installed water main in the street/right of way/easement.

You will be notified when your water service line is transferred to the newly installed water main. Once transferred, please follow the **Household Flushing Instructions** recommended by AWWA¹ listed below to minimize your exposure of any lead that may have been released.

St. Louis County



Please note: This diagram is a generic representation. Variations may apply.

Because part of the service line that we observed contained lead, you should contact a licensed plumber to identify the material used in your home plumbing. If lead is found, you should consider replacing those materials to reduce your exposure to lead. Please note: homeowners are responsible for their home plumbing and water service line.

Household Flushing Instructions

You should flush your household plumbing BEFORE you consume tap water or use hot water. For example, this includes drinking, cooking, making baby formula, filling pet bowls, or using icemakers, filtered water dispensers or appliances requiring water.

1. Start by finding the closest available cold water tap to where the water line comes into the home (such as an outside hose bib or laundry/utility sink). If using outside faucet, please use hose to direct water away from your home.
2. Remove faucet aerator, and if applicable, bypass any home treatment unit. Then fully open the cold water tap and let the water run for at least 30 minutes.

Next, flush the remainder of your household plumbing as follows:

3. Remove faucet aerators from all cold water taps in the home (and remove any filter devices).
4. Beginning in the lowest level of the home, fully open the cold water taps throughout the home.
5. Let the water run for at least 30 minutes at the last tap you opened (top floor).
6. Turn off each tap starting with the taps in the highest level of the home. Replace the aerators on faucets.

Be sure to run cold water in bathtubs, showers and faucets, and monitor all taps and drains to prevent overflows.

¹Source: American Water Works Association (AWWA), www.awwa.org. AWWA is a nonprofit association dedicated to managing and treating water.

FOR MORE INFORMATION

For Questions About Lead:

Contact Jane Bishop
M-F, 7:30 a.m.–4 p.m.
314-469-6050, ext.6428
After hours: Please contact our field resources center at 1-618-239-3227

For Questions About Construction:

For all other inquiries:
Customer Service Center
1-866-430-0820
Hours: M-F, 7 a.m. – 7 p.m.
For emergencies, we're available 24/7.

Missouri American Water meets all drinking water standards related to lead. Basic information about lead, the steps we take—along with tips on what you can do—to reduce the potential for lead exposure, are attached and can be found online at www.missouriamwater.com. Under Water Quality, select Water Quality Reports.

For more information on drinking water in general: Call the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Date: _____
Time: _____ a.m. / p.m.

MOSTL.FLB.01-2017

LEAD

The most common source of lead in tap water is the plumbing in your home



MISSOURI
AMERICAN WATER

Missouri American Water regularly tests for lead in drinking water and has taken steps to minimize levels through improvements in corrosion control.

Although these tests indicate that lead is not an issue in the treated water leaving our facility, lead and/or copper levels in some homes and businesses might be detected due to customer use of lead pipes, lead solder and molded metal faucets in household plumbing.

Health effects associated with high levels of lead

The U.S. Environmental Protection Agency (EPA) sets standards related to lead in drinking water. Lead levels that exceed these standards could cause serious damage to the brain, kidneys, nervous system and red blood cells. The greatest risk, even with short-term exposure, is to young children and pregnant women.

Assessing your exposure to lead

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

- your home or water system has lead pipes or has a lead service line
- your home has copper pipes with lead solder
- your home was built before 1986 AND
- you have soft or acidic water
- water sits in the pipes for several hours

Minimizing your exposure

You cannot see, smell or taste lead, and boiling water will not remove lead. Although our water is treated to minimize the risk of lead, you can reduce your household's exposure to lead in drinking water by following these simple steps:

- **Flush your tap before drinking or cooking with water, if the water in the faucet has gone unused for more than six hours.** The longer the water lies dormant in your home's plumbing, the more lead it might contain. Flush your tap with cold water for 30 seconds to two minutes before using. To conserve water, catch the running water and use it to water your plants.
- **Try not to cook with or drink water from the hot water faucet.** Hot water has the potential to contain more lead than cold water. When you need hot water, heat cold water on the stove or in the microwave.
- **Remove loose lead solder and debris from plumbing.** In newly-constructed homes or homes in which the plumbing was recently replaced, remove the strainers from each faucet and run the water for 3 to 5 minutes. When replacing or working on pipes, be sure to use materials that are lead-free. Use of lead-based solders has been banned.
- **Look for the "Lead Free" Label.** When replacing or installing fixtures, look for the "lead free" label. Under the 2011 Reduction of Lead in Drinking Water Act, fixtures must have 0.25% lead or less to be considered "lead free."
- **See also information** on the reverse related to home treatment devices.

(Continued)

For more information

Missouri American Water
Customer Service Center
1-866-430-0820
M-F, 7 a.m. - 7 p.m.

Check us out online:
missouriamwater.com

For more information on
drinking water standards:
Contact the EPA Hotline at
1-800-426-4791



If you are still concerned about elevated levels and want to find out where you can have your water tested by a certified laboratory, contact the EPA's Safe Drinking Water Act Hotline at 1-800-426-4791 or visit the Missouri Department of Natural Resources' website at www.dnr.mo.gov.

FREQUENTLY ASKED QUESTIONS

Is lead in water regulated and does Missouri American Water comply with standards?

Yes and yes. The EPA's lead standard is an action level that requires treatment modifications if lead test results exceed 15 parts per billion (ppb) in more than 10 percent of first draw samples taken from household taps.

Missouri American Water regularly tests for lead at the end of its treatment process. Testing has shown that lead is not an issue in the water exiting any of our water treatment facilities.

We also conduct tests in our distribution system in accordance with the EPA regulatory requirements. For more information on your system, visit missouriamwater.com to view the latest consumer confidence report. Under the **Water Quality & Stewardship** menu, select **Water Quality Reports**.

Does that mean I do not have lead in my water?

Not necessarily. You might have lead in your drinking water if your household plumbing system has lead pipes or if lead solder was used in the joints of copper pipes.

Homes built before 1930 are more likely to have lead plumbing systems.

Lead pipes are dull grey color and scratch easily revealing a shiny surface. Lead solder used to join copper pipes is a silver or grey color. If your house was built before January 1986, you are more likely to have lead-soldered joints. If you do, the chance of the lead leaching into your drinking water is greater when water has been standing in the pipes for many hours, overnight for example.

Lead kits that test for the presence of lead in solder are available at some hardware stores.

Should I flush my faucets every morning before using it to drink or use for food prep?

Yes. If you know you have lead pipes or lead solder was used on your copper piping, **flush your tap before drinking or cooking with water, if the water in the faucet has gone unused for more than six hours.** The longer the water lies dormant in your home's plumbing, the more lead it might contain. Flush your tap with cold water for 30 seconds to two minutes before using.

How can I tell if my water contains too much lead?

You can have your water tested for lead. Since you cannot see, taste or smell lead dissolved in water, testing is the only sure way of knowing.

Will electrical grounding increase my lead levels?

Possibly. If grounding wires from electrical systems are attached to household plumbing, corrosion and lead exposure may be greater. Customers can choose to pay to have an electrician check the house wiring.

Getting your water tested for lead

Missouri American Water does not provide testing for lead for individual customers who request it. Customers can choose to have their water tested at their cost at a certified laboratory.

For more information:

- Contact EPA's Safe Drinking Water Act Hotline: 1-800-426-4791
- Visit Missouri Department of Natural Resources online at www.dnr.mo.gov

Do I need a home treatment device for lead?

The need for a home treatment device is a customer-specific decision. Missouri American Water takes steps to reduce the potential for lead to leach from your pipes into the water. This is accomplished by adding a corrosion inhibitor or by reducing the acidity of the water leaving our treatment facilities. Certain home treatment devices, such as water softeners for example, might increase lead levels in your water. Always consult the device manufacturer for information on potential impacts to your drinking water or household plumbing.

NSF International created a Consumer Guide to NSF Certified Lead Filtration Devices for Reduction of Lead in Drinking Water. Visit www.nsf.org/info/leadfiltrationguide for more information.



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Visit us online at www.missouriamwater.com

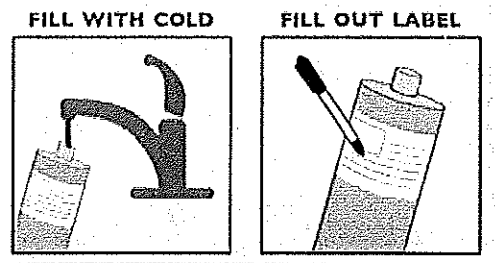
Sample #1 – Post Flush

STEP I Fill bottle and complete label (print legibly)

- Collect water sample from the **kitchen cold water tap** AFTER conducting the whole house flush.
- If a water treatment unit or filter is attached to the plumbing system or faucet, remove the filter or bypass the unit before sampling.

Sampling

1. Gently open the **kitchen cold water tap** and fill the bottle to the top (marked with a line).
2. Turn off water and tightly cap the sample bottle.
3. Fill out the bottle label:
Collect Date, Collect Time, and Address.



STEP II Deliver Sample

Deliver sample on the **SAME DAY COLLECTED** to [INSERT Project Manager Name] for shipment to the lab.

Sample #2 – Water Unused for 6 Hrs

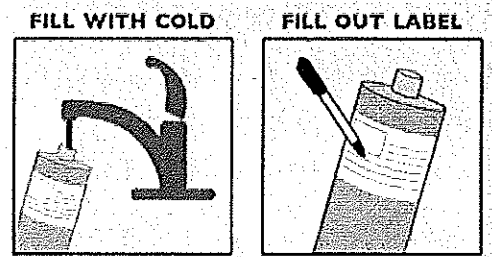
**This sample should be collected within 72 hours (3 days) of the water line replacement.*

STEP I Fill bottle and complete label (print legibly)

- Collect water sample from the **kitchen cold water tap** AFTER water has sat motionless for **AT LEAST 6 HOURS**. (This may be first thing in the morning or after returning home from work, etc.)
- This sample must be collected within 72 hours (3 days) of the repair.
- If a water treatment unit or filter is attached to the plumbing system or faucet, remove the filter or bypass the unit before sampling.

Sampling

1. Gently open the **cold water tap** (*that has been unused for at least 6 hours*) and fill the bottle to the top (marked with a line).
2. Turn off water and tightly cap the sample bottle.
3. Fill out the bottle label:
Collect Date, Collect Time, and Address.



STEP II Deliver Sample

Deliver sample on the **SAME DAY COLLECTED** to [INSERT Project Manager Name] for shipment to the lab. Results will be communicated with the resident/owner as soon as they are available.