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MISSOURI PUBLIC SERVICE COMMISSION

COMMISSION STAFF DIVISION
WATER & SEWER DEPARTMENT

REBUTTAL TESTIMONY

OF

JONATHAN DALLAS

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WU-2017-0296

Jefferson City, Missouri
August 2017

PSC Exhibit No. 11
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OF

JONATHAN DALLAS

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WU-2017-0296

Q. Please state your name and business address.

A. Jonathan Dallas, P.O. Box 360, Jefferson City, MO 65102.

Q. By whom are you employed and in what capacity?

A. I work for the Missouri Public Service Commission (Commission) as a Utility Operations Technical Specialist in the Water & Sewer Department (W/S Dept.) in the Utility Operations Division

Q. Please briefly describe your job responsibilities.

A. One of my primary responsibilities is the inspection of large and small privately owned water and sewer facilities around the state. I prepare a detailed report and memorandum. If the inspection is due to a small company rate request, the memorandum is filed with the Commission as a part of a Disposition Agreement. As part of my inspections, I am also responsible for determining if company projects are prudent and necessary. I am also responsible for responding to customer complaints and working with the customers and companies to resolve issues.

Q. What is your educational background?

A. I have a Bachelor of Science Degree: Major Construction Management from the University of Central Missouri.

Q. What is your previous work experience?

A. Before coming to work at the Commission, I worked for the City of Columbia, specifically the Columbia Water & Light Department (Water & Light) where I was employed as an Engineering Aide II. My primary job was a water main inspector. As a water main inspector, I was responsible for making sure contractor crews who were constructing new water mains did so in a manner which met the city's codes and specifications. Prior to working for Water & Light, I worked for Twehous Excavating Company (Twehous) in Taos, Missouri as a labor/operator. At Twehous, I primarily worked on a utility crew which was responsible for replacing old water mains in Jefferson City.

Q. Do you have a summary of your education and work experience?

A. Yes, please refer to Schedule JD-r1 attached to this testimony for a summary of my education and work experience backgrounds.

Q. Have you previously testified before this Commission?

A. Yes, I have testified in Case No. WO-2017-0236.

Q. What is the purpose of your rebuttal testimony?

A. To respond to the testimony of the Office of the Public Counsel (OPC) witness Geoff Marke.

Q. Will anyone else from Staff be filing testimony?

A. Yes, James Merciel will file testimony addressing MAWC's proposal and OPC's pilot program and Amanda McMellen will address the accounting issues.

Q. What is a water service line?

A. A water service line is a pipeline through which water flows into a customer's premise whether the premise is a house, a commercial building, or a series of connected

living units. The water service line connects a utility-owned water main that is part of a water distribution pipeline system throughout the water utility's service area to a customer's premise. For most customers, the water main is near or under a street.

Q. Who owns and controls water service lines?

A. In most cases, the water utility owns the portion of the water service line between the water main and a point at or near the property line. At this location, there is often an utility-owned water meter. The remaining portion of the water service line is owned by the customer. However, specific to MAWC's customers in St. Louis County, customers own the entire water service line between the water main and the premise. There are, of course, variations on water main location and meter location. Service lines and water mains are defined in MAWC's tariff, and the tariff includes rules detailing customer and MAWC responsibilities for ownership and maintenance of service lines and portions of service lines.

Q. Are water service lines made of any specific material??

A. No. The most common material used today is copper. However poly vinyl chloride (PVC) is also rather common, as are a couple of other types of plastic. In past years, galvanized iron was used extensively, as was lead.

Q. Do you have any prior experience with Lead Service Lines (LSL)?

A. Yes, in my previous job with Twehous, I worked on a utility crew where we frequently performed water main replacements in Jefferson City for Missouri American Water Company ("MAWC" or "Company"). As part of the main replacements, we were responsible for connecting the existing service lines to the new main. Usually the service lines were copper but occasionally we would encounter a LSL.

Q. What did you do when you discovered a LSL?

A. When a LSL was discovered, during a main replacement project MAWC would insure the LSL was replaced with copper from the meter to the new water main.

Q. Why did you only replace the LSL from the main to the meter?

A. In the Jefferson City service area, MAWC only owns the service line from the main to the meter or property line. Further, addressing the issue of the potential for lead in drinking water was not as prominent as it is today.

Q. Why were LSLs not as big of a concern then?

A. Before the Flint Michigan incident, LSLs were not as much of a concern because properly treated noncorrosive water will not leach lead out of customer service lines or other fixtures in the water system. After Flint, Michigan, there was a spotlight on the danger of failures in chemically treating water, which in turn increased conversations nationwide about removing lead pipes to proactively remove risks. This is addressed in the EPA's "Lead and Copper Rule Revisions White Paper" dated October 2016 the first key principle for LCR revisions cited is "Focus on Minimizing Exposure to Lead in Drinking Water.[1]"

Q. Has the Company's policy on LSLs changed?

A. Yes, the Company is currently replacing all LSLs it encounters, whether the LSL's are on main replacement projects, main breaks, or service line repairs. The Company is now replacing the full length of the lead service line, both Company and customer portions.

Q. Do you agree with this practice?

A. Yes, I do.

[1] The EPA White Paper is included with the rebuttal testimony of Staff witness James A. Merciel, Jr.

Q. In your opinion, is this a good practice?

A. Yes. Based on recent articles and studies from organizations such as the Environmental Protection Agency (EPA), it is suggested that only replacing a portion of a LSL can increase the chance of lead leaching into the water because cutting a LSL can dislodge the scale inside the service line allowing the water to come directly into contact with lead.

Q. Are there any specific articles which point this out?

A. Yes, in the EPA's "Lead and Copper Rule Revisions White Paper" dated October 2016 the first key principle for LCR revisions cited is "Focus on Minimizing Exposure to Lead in Drinking Water: Improve public health protection by reducing exposure to lead in drinking water to the maximum amount possible through proactive measures to remove sources of lead and educating consumers about the health effects of lead and actions to reduce exposure." EPA goes on to state, in summary, that partial lead service line replacement is not the best way to achieve this goal, as partial lead service line replacement often results in elevated lead readings due to the leaching mechanism, discussed above.

Q. What other experience have you had with MAWC and LSLs?

A. On August 4, 2017, Mr. Merciel and I visited a MAWC main replacement project in St. Louis County, specifically on Summit Avenue and Eunice Avenue in Webster Groves.

Q. Please describe what you witnessed there.

A. First, we observed yard and street patches where several LSLs had been replaced. Second, we witnessed a MAWC-hired plumbing contractor installing a new one-inch copper service into place to replace an old LSL.

Q. What else did you see?

A. Next, we observed a LSL still connected to the old four-inch cast iron water main, which MAWC was replacing with a new eight-inch PVC main. We also saw where MAWC had dug up a service line in a customer's yard to verify it was a LSL. Attached as Schedules JD-r2, JD-r3, and JD-r4 are three pictures depicting this.

Q. Can you explain MAWC's process for replacing water mains?

A. Yes. Each year, MAWC reviews its records, which show a history of main breaks on a given main, the age of a water main, the frequency of main breaks, any upcoming road improvements such as resurfacing or sidewalk replacement, and the economic impact of replacing a main versus repair. MAWC also looks at where there might be a high probability of LSLs located by looking at "tap cards", which have been integrated into their GIS mapping system.

Q. What is a tap card?

A. A tap card is piece of paper a utility worker fills out when they connect a customer's service line to a water main. The tap card typically contains a variety of information such as size of the service line, size of the main the service is connected to, type of material the main is constructed of, type of material the service is constructed of, and various other facts like location, approximate depth, the date installed and so on.

Q. What is a GIS map?

A. GIS stands for Geographic Information System. GIS allows MAWC to view its entire infrastructure with the click of a mouse. The data available to MAWC includes main size, type of main, approximate location, main breaks, location of fittings such as valves,

fire hydrants and, elbows. It also allows MAWC to view tap cards, which may or may not have information on the material used to construct the water service.

Q. How is MAWC verifying if LSLs are present on a main replacement project?

A. During Staff's visit to MAWC's office, MAWC explained before a project begins, it reviews its records and GIS map to identify possible LSLs. During the project MAWC inspects customer service lines at three locations to verify there is no lead present.

Q. What is one of the locations MAWC is inspecting to check for a LSL?

A. At the site visit, MAWC stated it digs the service line up at the meter pit or curb stop in the customer's yard to verify what material the service line is constructed of. This would be approximately near the middle of the service line. Staff observed one such hole MAWC had excavated. A picture is attached as Schedule JD-r3.

Q. What method is MAWC using to expose the service line?

A. On the site visit, MAWC stated to Staff that they are using a soft dig method to expose the water service line.

Q. Please explain what you mean by "soft dig"?

A. Soft dig is an excavation method that utilizes high-pressure water to soften up dirt, which is then vacuumed up by a large vacuum. This method exposes the service line without the potential of breaking them or other buried utilities.

Q. What other locations of the service line is MAWC looking at to identify whether or not there is lead present?

A. The Company is also meeting with customers to gain entry to their basements to verify what type of water service line is entering their home.

Q. What is the last location on the service line the Company is examining?

A. When the Company prepares to tie the water service over from the old water main to the new water main, the Company will expose the service line at the old main if it was not previously exposed as the Company installs the new water main.

Q. When do you believe it makes the most sense to replace LSLs?

A. In my opinion the best time to replace a LSL is during a main replacement project.

Q. Why do you believe that is the best time?

A. To me it makes the most sense because MAWC will already have both the new water main dug up and the service line so it can be connected to the new main. MAWC is essentially doing half the work during a main replacement. Also as stated above it is believed that if a LSL is disturbed at all, it is the best practice to undertake a full LSL replacement.

Q. Does this conclude your testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Missouri-American Water Company for an Accounting Order Concerning MAWC's Lead Service Line Replacement Program	))))	**Case No. WU-2017-0296**

AFFIDAVIT OF JONATHAN DALLAS

State of Missouri)
) ss.
County of Cole)

COMES NOW Jonathan Dallas, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing Rebuttal Testimony; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Jonathan Dallas

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 23rd day of August, 2017.

Dianna L. Vaught
NOTARY PUBLIC

My commission expires: June 28, 2019.

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: June 28, 2019
Commission Number: 15207377

Jonathan Dallas

EMPLOYMENT:

7/15-Present **State of Missouri, Public Service Commission**

Utility Operations- Technical Specialist, Water and Sewer Department

- Inspected large and small water and sewer facilities around the state.
- Prepared detailed reports and memorandums to be filed with the Commission.
- Responded to customer complaints and worked with the customer and company to resolve them.
- Determined if company expenditures were prudent.

8/13-07/15 **City of Columbia, Water & Light**

Associate Engineering Technician

- Inspected construction of new water mains; public and private.
- Completed accurate as-builts and final inspection reports.
- Preformed chlorination, dechlorination, bacteria tests, and pressure tests.
- Used AutoCAD to draw as-builts of completed jobs.
- Used Excel for a chlorination spread sheet.

06/04-08/13 **Twehous Excavating Co.**

Laborer, Operator

- Installed water main, sewer main, and storm drain.
- Installed sewage treatment facilities.
- Repaired water main breaks.

EDUCATION/TRAINING:

8/04-12/08 **University of Central Missouri**

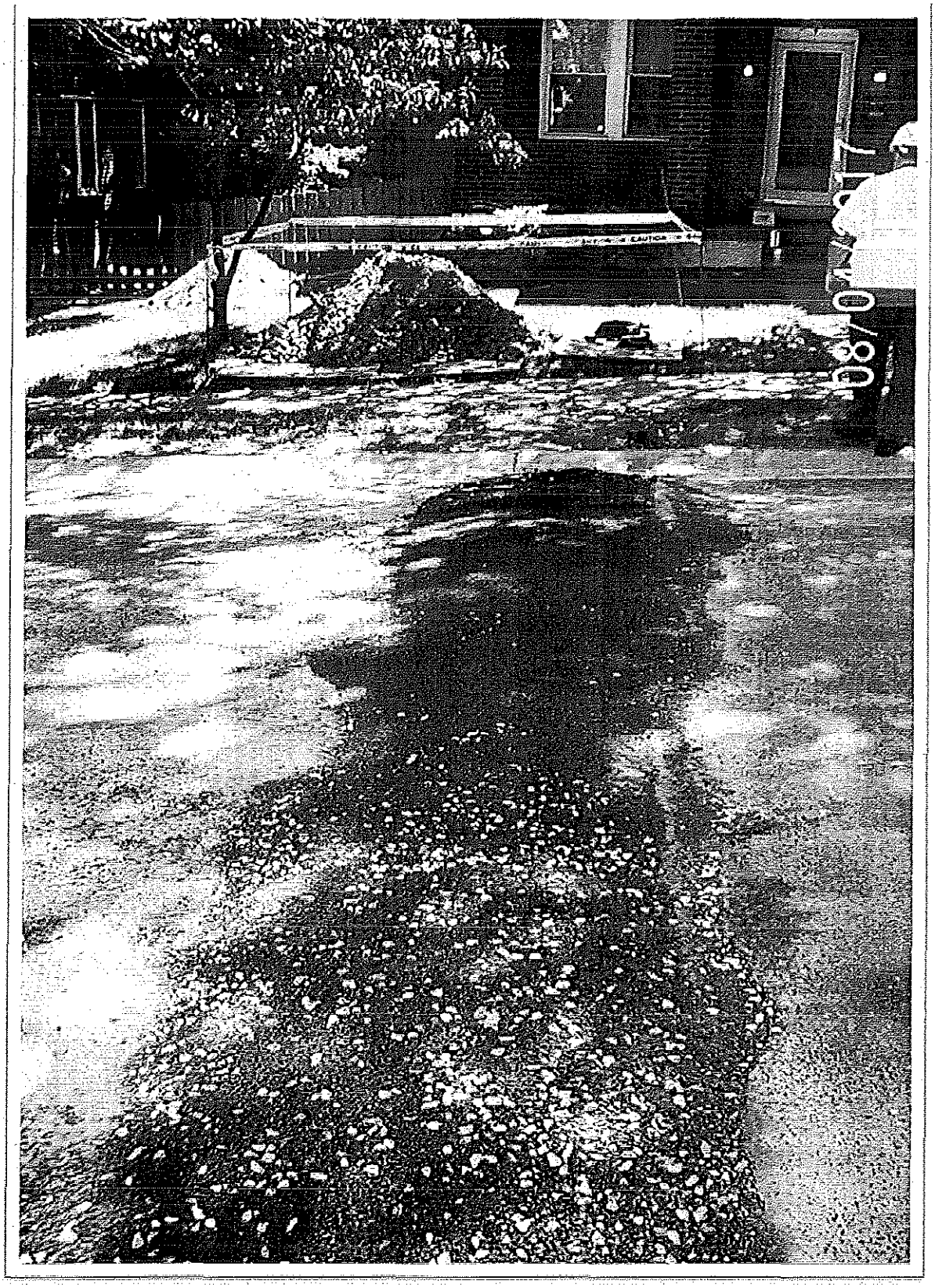
Bachelor of Science Degree, Major: Construction Management

4/201 6 **Missouri Department of Natura l Resources**

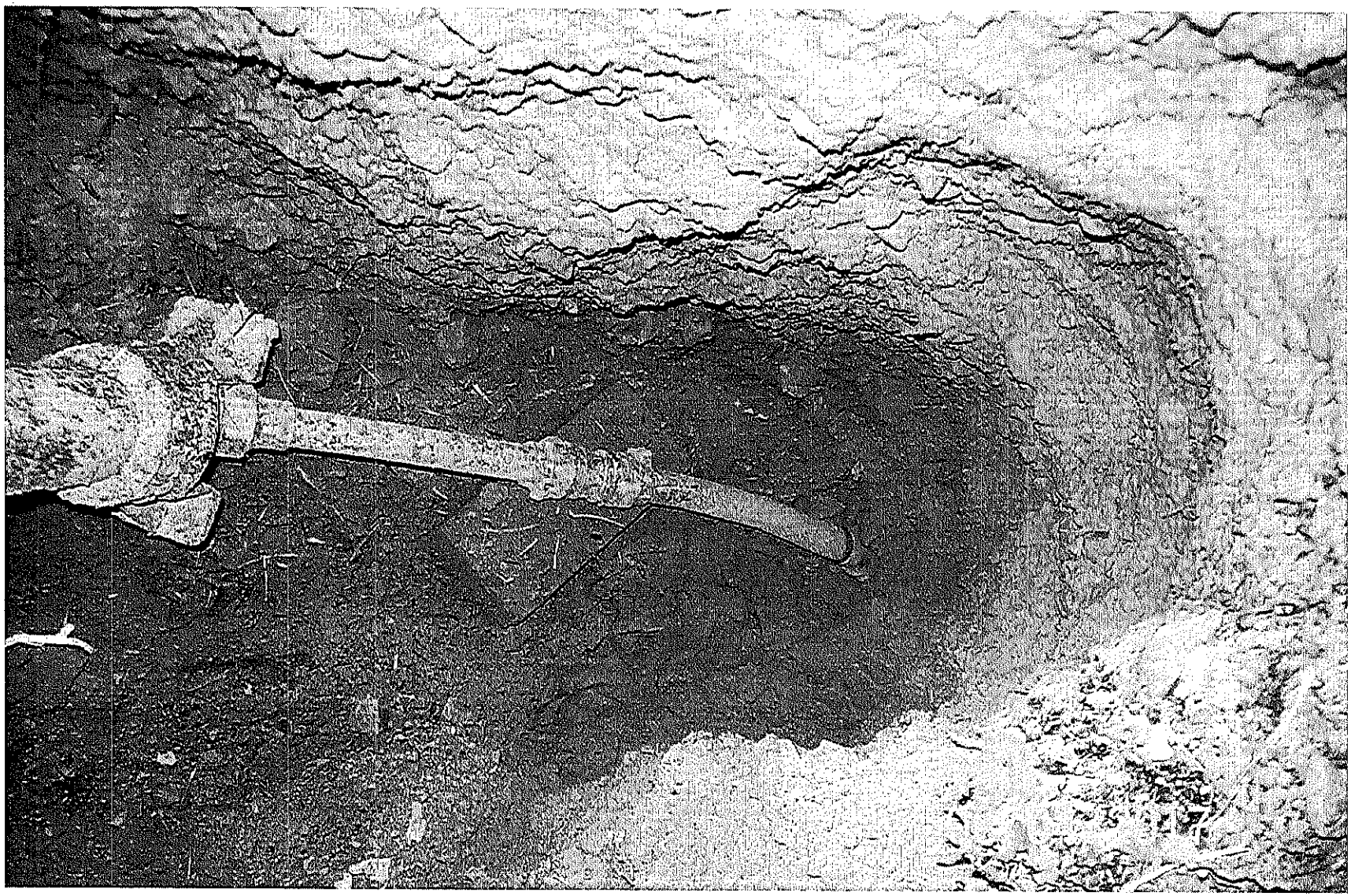
Water Distribution Level I (DSI)

Previously Filed Testimony:

Case No.	Company	Type of Filing	Issue
WO-2017-0236	Ridge Creek Water Company, LLC	Oral	Safe and Adequate Service



An example of a LSL replacement where the water main is on the opposite side of the street from the customer's home. This photograph is in the St. Louis County service area where the customer owns the entire service line.



This picture shows a customer's service line that MAWC has exposed during a water main replacement. MAWC exposed the customer's service line to verify if it is lead. On the left is a short piece of copper which is then connected to a lead service line.

Pictured here is a lead service line connected to an old four-inch cast iron water main, appearing near the top of the picture. The old main is being replaced with a new eight-inch PVC water main, appearing at the bottom of the picture, and the lead pipe portion of the service line will be replaced with new copper pipe.