



EPA REGION 8 DRINKING WATER PROGRAM
WYOMING AND TRIBAL SYSTEMS
FEBRUARY 2023 NEWSLETTER

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
REGION 8

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AFTER-HOURS EMERGENCY PHONE NUMBER



The Region 8 Drinking Water Program has an after-hours emergency phone number. If you experience an emergency during non-workday hours or the weekend, such as an issue that disrupts your water supply or the water is contaminated with *E coli* bacteria or other contaminants, please call **303-312-6327** for assistance. During Monday-Friday working hours please contact one of our staff members for assistance.

STAFFING CHANGES IN EPA REGION 8'S DRINKING WATER PROGRAM

Recently Retired: After a long and noteworthy career with EPA, **Lisa Kahn** retired as the Section Supervisor for the Drinking Water Section B. We wish her well as she travels, spends time with family and friends, and explores organic farming in different parts of the world.

Newly Hired: The new Supervisor of Drinking Water Section B is **Judy Bloom**. The newly reorganized Section B includes the EPA drinking water rule managers and data management team. Judy's contact information is bloom.judy@epa.gov or 303-312-6395.

Also joining the Drinking Water Branch is **Rob Parker** as the Supervisor of Drinking Water Section A. Rob oversees the Wyoming/Tribal Direct Implementation and State oversight functions. Rob's contact information is parker.robert@epa.gov or 303-312-6664.

In addition, joining the program are:

- **Jill Minter**, minter.jill@epa.gov or 303-312-6084 as the new Lead Service Line Inventory Coordinator;
- **Erica Wenzel**, wenzel.eric@epa.gov or 303-312-6411 as the new LCR-LSL Inventory Specialist;
- **Claire Ohman**, ohman.claire@epa.gov or 303-312-6578 assisting with general lead and copper matters;
- **Karen Simpson**, simpson.karen@epa.gov or 303-312-6449 as the new Emerging Contaminants Coordinator.

Moved to Greener Pastures: Nate Delano, Emily Gillespie and Angelique Diaz have left the drinking water program for different positions within EPA. We are sorry to see them leave, however happy that they are staying within the EPA family.

HOW TO PREPARE FOR A SANITARY SURVEY

How to Prepare for Your Water System's On-Site Sanitary Survey

@

@ = potential significant deficiency

¥

¥ = potential SWTR violation

Here's what you can do to prepare for your sanitary survey to make the process go **smoother, faster and result in fewer significant deficiencies.**

- Review your system's **previous sanitary survey report** (surveys for Community systems are conducted every 3 years and Non-Community systems are conducted every 5 years). Make sure that any significant deficiencies have been addressed.
- Review the **current year sanitary survey report form**. An email from EPA Region 8 will be sent later this year indicating that your system is due for a survey. The form will be attached to the email notification. Potential significant deficiencies are noted by **red** text on the report form and identified by an @. Potential SWTR violations are noted by **blue** and by a ¥ symbol on the survey report.

- Collect updated contact information for your facility (mailing address, phone number, email address). Collect information on the number of people served by the water system (residential/transient), and the number of service connections (metered, unmetered).

Know the answers to the following for your onsite survey:

- Does your water system have a certified operator? (Required only for Community or Non-Transient Non-Community systems).
- If your system purchases water what is the name of the system that supplies your water, and its PWSID number? (Who maintains the connection between the two systems?)
- If your system sells water to other systems what are their names and PWSID numbers? (Who maintains the connection(s) between the systems?)
- If your system has wells, are the well caps sealed (check the compression seal, gasket or o ring, and look for missing bolts or a disconnected conduit). Is there a source water tap?
- If your system has a spring source, do you have construction drawings, as-built drawings, or photographs documenting the spring construction? Does the water enter the spring box through a perforated pipe? At what depth? Is the hatch sealed with a gasket? Do vents and overflows have (#24 mesh) screens?
- For water systems that have above-ground storage tanks (ground level or elevated), EPA doesn't require its surveyors to climb storage tanks. We do not provide the necessary safety training nor safety equipment. Be proactive and review the "Storage Tank - Above Ground Rooftop Component Checklist for Finished Water Tanks" at <https://www.epa.gov/region8-waterops> (click on Reporting Forms, click on Sanitary Surveys) and inspect each of your storage tanks' components prior to the survey. For each question on the checklist please provide photos illustrating heights, screen mesh size, etc. for each feature, and include the storage tank name and the facility ID specified on your water system's schematic (e.g. ST01).

- Each storage tank should be cleaned every 3 to 5 years. However, if it has been more than 10 years this will be identified as a significant deficiency and you will be asked to provide a "Finished Water Storage Tank Inspection/Cleaning Checklist" completed by either the water system staff or a tank cleaning contractor. If you wish to take care of this prior to the survey, you may obtain a copy of the checklist at <https://www.epa.gov/region8-waterops> (click on Reporting Forms, click on Sanitary Surveys) and document information for each of your system's storage tanks that are due for cleaning prior to the survey. The questions on this checklist are the same as on the "Rooftop Component Checklist" above, in addition to questions about the tank overflow, tank drain and what was found during the cleaning. Again, photographic documentation is required along with the answers to each question on the checklist.

Be sure that you have updated sampling plans available for:

- Revised Total Coliform Rule (RTCR) sampling locations.

Many Community and Non-Transient systems should have updated monitoring plans for:

- Disinfection Byproduct Rule monitoring locations and
- Lead and Copper Rule sampling sites.

Prior to the survey, visit all the locations the surveyor will visit and make sure you have access to all the facilities:

- Obtain land owners' permission for you and the surveyor when traveling on or across private property.
- Make sure there are no rodents encamped on or around well heads, pumps, sample taps, etc.
- Make sure backflow prevention devices have been tested within the last year.

For more information:

If you are a Wyoming system and have any questions, need a survey report or report form, contact Lucien Gassie, 303-312-6620, gassie.lucien@epa.gov.

Tribal systems who need information, please contact Andrea Griese, 605-945-1192, griese.andrea@epa.gov.

LOSS OF PRESSURE

What to do for a Loss of Pressure Incident

Distribution systems can lose pressure for various reasons that include water main breaks, equipment failures, losses of power, etc. The loss of pressure in a drinking water distribution system may cause a net movement of water from outside the pipe to the inside of the pipe through cracks, breaks or joints in the distribution system. Back siphonage is also a condition resulting from low or no pressure. Such system failures carry a high potential for fecal contamination or other disease-causing organisms to enter a distribution system and can cause serious health concerns for people who drink the contaminated water. Pressure loss is defined as a distribution system pressure of less than 20 pounds per square inch (psi).

Measures to Take in the Event of Partial or Full Pressure Loss at a Public Water Supply System

The response to pressure loss and the remedial actions that follow will vary depending on the situation. However, listed below are the actions that an operator should take in the event of a loss of pressure in the distribution system that is likely to last longer than one hour:

1. If the area of lost pressure can be valved off and contained, you should isolate this area from the rest of the system. This may limit the degree of contamination and the number of service connections affected by the loss of pressure.
2. **Immediately notify the EPA Region 8 Drinking Water Program.**
 - **Wyoming Public Water Systems (PWS):** call 303-312-6791
 - **Tribal Public Water Systems (PWS):** call 303-312-6327 or 605-945-1192
 - **If outside of normal business hours, call the after-hours emergency and holiday phone number:** 303-312-6327
 - **Be prepared to describe** what happened, when the pressure loss occurred, where the pressure loss occurred, and include the scope of the problem (if known).
3. We recommend that you notify the laboratory that you use to alert them regarding the emergency and to obtain bacteriological sampling bottles, materials, and instructions (for taking “special”

bacteriological samples).

4. In order to protect your customers, immediately issue a Tier 1 Public Notice (PN) a [Loss of Pressure Boil Water Advisory](#). If boiling the water is a hardship for customers, consider providing bottled water or another alternate water supply to customers.
5. Locate/identify and fix the problem that caused the pressure loss.
6. When system pressure is restored to normal, disinfect and flush the affected distribution system in accordance with AWWA Standard C651 as necessary.
7. After the excess chlorine has been flushed out of the water supply, ensure that chlorine residuals have returned to normal levels. Collect and submit to the lab a Total Coliform (TC) bacteriological sample from both upstream and downstream of the affected area of the distribution system. Maintain the boil water advisory until two consecutive days of “safe” TC samples have been collected or until EPA notifies you that the boil order can be lifted. These samples should be designated/marked as “special” samples on the lab slip.

The EPA may issue an Emergency Administrative Order (EAO) for incidents that can result in contamination in or near a public water system that may pose an “imminent and substantial” endangerment to human health. If an EAO is issued to the system owner, the operator must follow all the requirements (e.g., issue a Tier 1 Boil Water Advisory Public Notice, complete corrective actions, disinfect and flush the system, collect special total coliform samples) listed within the EAO.

Prepare for the Unexpected

Every water utility should have an Emergency Response Plan (ERP) that addresses emergencies, such as loss of pressure, with a checklist of steps to take. The ERP must be exercised periodically in order for all personnel to be familiar with it. Regular maintenance and timely implementation of sanitary survey recommendations may also help in preventing or reducing emergencies.

Did you know that EPA has a Drinking Water Website?

Yes, we do! EPA Region 8 has a website <https://www.epa.gov/region8-waterops> for drinking water system operations in Wyoming and on Tribal lands, and it has many resources you may need or find helpful. The website is divided into six sections: (1) Water Systems (2) Emergency Preparedness (3) Reporting Results (4) Regulations and Compliance (5) Monitoring and Sampling and (6) Operations and Assistance.

Some key highlights of the website by section include the following:

Water Systems

- Access to Drinking Water Watch, the tool that enables you and the public to view data EPA maintains about your water system and generates a report to help you develop your CCR

Emergency Preparedness

- What to do if you have a loss of pressure
- Access to a boil water advisory template when an *E.coli* maximum contaminant level (MCL) exceedance occurs

Reporting Results

- Access to reporting forms for changes to water source, treatment, water system facilities, system contacts and/or management, as well as seasonal operations
- Access to consumer confidence report certification forms, emergency response plan templates, lead and copper tap sample site plan template, maximum residual disinfectant level form, basic information form for new public water systems,



sampling forms, public notification templates, sanitary survey forms, and many others

Regulations and Compliance

- EPA's regulated analytes list
- Tips to stay in compliance

Monitoring and Sampling

- List of certified laboratories
- Sample collection guide

Operations and Assistance

- Preparing for a sanitary survey and tech tips
- Presentations from training conferences.

Our staff contact list is available in the yellow "Need Help" box on the right-hand side of the home screen of the Drinking Water website. Please look and contact us about any other needs.



REPLACEMENT OF ASBESTOS CEMENT PIPE

Managing the Replacement of Asbestos Cement Pipe

The use of asbestos cement (AC) pipe (or transite pipe) in drinking water distribution systems was once common in the U.S. It was installed as early as the 1930s with the peak of installation and use between the 1950s and 1960s. EPA estimates that 15% of water distribution pipes are asbestos cement. Due to the serious health risks associated with asbestos exposure, the EPA attempted to ban all asbestos containing products on the market in 1989. While that was ultimately overturned, the use of AC pipe was largely discontinued at the end of the last century

due to health concerns associated with the manufacturing process and the possible release of asbestos fibers from deteriorated pipes. In 2019, the EPA promulgated a Significant New Use Rule under the Toxic Substances Control Act to ensure that any discontinued uses of asbestos cannot re-enter the marketplace without EPA review, including asbestos cement pipe and fittings.

Much of our drinking water infrastructure has reached or is nearing the end of its useful life and approaching the age at which it needs to be replaced. AC pipe has a typical design life of 50 years. As AC pipes are managed and

replaced, special care is required to prevent the release of hazardous asbestos fibers.

The Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, subpart M, sets forth requirements intended to minimize the release of asbestos fibers during renovation and demolition activities involving the handling of asbestos. Pipe replacement is considered a renovation activity which is subject to these requirements.

Prior to the renovation or demolition of a facility, including activities involving AC pipe, the Asbestos NESHAP requires the removal of all regulated asbestos-containing material (RACM). RACM includes any existing friable asbestos material or material which would likely become friable during the course of the planned demolition or renovation operations. That is, any asbestos-containing material that can be crumbled or reduced to powder by hand pressure must be safely removed prior to conducting activities that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal.

Conventional and acceptable work practices to replace AC pipe include open-cut trench and abandonment in place. Open trenching is the practice under which the entire AC pipe is excavated, wet-cut into 6- and 8-foot sections using a snap cutter or similar tool, wrapped for containment, and removed for disposition at an approved disposal location.

Asbestos cement pipes may also be abandoned in place with the new pipeline laid in a separate area.

While pipe bursting and breaking are popular methods for various types of pipe replacement projects in general, pipe bursting or breaking AC pipe is not permitted under the Asbestos NESHAP. Pipe bursting or breaking of AC pipe renders the AC pipe friable, leaving friable pipe fragments consisting of RACM underground. This method does not comply with the requirements of the asbestos NESHAP and has not been approved by EPA.



EPA has approved a closed trench method for AC pipe replacement, which may be used as an alternative to the open-cut trench and abandonment in place approaches allowed under the Asbestos NESHAP. This EPA-approved alternative work practice standard is known as Close Tolerance Pipe Slurrification (CTPS). CTPS utilizes trenchless technology and does not leave friable asbestos in the ground. CTPS involves grinding the AC pipe while simultaneously injecting fluid to form a liquid cement slurry which is vacuumed out through vertical access points. The new pipe is pulled into the existing pipe cavity directly behind the grinding apparatus. A skim coat of nonfriable cementitious asbestos-containing material is left and solidifies on the outside rim of the new pipe. For more information on the CTPS method see <https://www.epa.gov/stationary-sources-air-pollution/notice-final-approval-alternative-work-practice-standard-asbestos>.

For more information about the asbestos NESHAP, visit <https://www.epa.gov/stationary-sources-air-pollution/asbestos-national-emission-standards-hazardous-air-pollutants>.

If you have any questions, please contact the Chemical Phase II/V Rule Manager Kendra Morrison, at morrison.kendra@epa.gov or (303) 312-6145.



PROTECT YOUR SYSTEM AGAINST RANSOMWARE ATTACKS



The number and size of ransomware incidents have increased significantly and strengthening our nation's resilience from cyberattacks – in both the private and public sector – is a top priority of EPA. The U.S. government is stepping up to do its part, working with like-minded partners around the world to disrupt and deter ransomware actors. These efforts include disrupting ransomware networks, working with international partners to hold countries that harbor ransomware actors accountable, developing consistent policies towards ransom payments and enabling rapid tracing and halting of virtual currency payments.

All organizations must recognize that no entity is safe from being targeted by ransomware, regardless of size or location, and this is especially important with the security of water systems. But there are immediate steps you can take to protect your facilities, as well as your customers and the broader economy. Much as our homes have locks and alarm systems to meet the threat of theft, we urge you to take ransomware crime seriously and ensure your water system's cyber defenses match the threat. Below you will find the U.S. government's recommended best practices – we've selected a small number of highly impactful steps to help you focus and make rapid progress on driving down risk.

What We Urge You to Do Now:

Implement the five best practices from the President's recent Executive Order: These five best practices can provide high impact: multifactor authentication (because passwords alone are routinely compromised), endpoint detection and response (to hunt for malicious activity on a network and block it), encryption (so if data is stolen, it is unusable) and a skilled, empowered security team (to

patch rapidly, and share and incorporate threat information in your defenses). These practices will significantly reduce the risk of a successful cyberattack.

Backup your data, system images and configurations, regularly test them and keep the backups offline: Ensure that backups are regularly tested and that they are not connected to the organization's network, as many ransomware variants try to find and encrypt or delete accessible backups. Maintaining current backups offline is critical because if your network data is encrypted with ransomware, your organization can restore systems.

Update and patch systems promptly: This includes maintaining the security of operating systems, applications, and firmware, in a timely manner. Consider using a centralized patch management system; use a risk-based assessment strategy to drive your patch management program.



Test your incident response plan: There's nothing that shows the gaps in plans more than testing them. Run through some core questions and use those to build an incident response plan: Are you able to sustain business operations without access to certain systems? For how long?

Check Your Security Team's Work: Use a third-party pen tester to test the security of your systems and your ability to defend against a sophisticated attack. Many ransomware criminals are aggressive and sophisticated and will find the equivalent of unlocked doors.

Segment your networks: There's been a recent shift in ransomware attacks – from stealing data to disrupting operations. It's critically important that your water system functions, and other operations are separated and that you carefully filter and limit internet access to operational networks, identify links between these networks and develop workarounds or manual controls to ensure networks can be isolated and continue operating if your business network is compromised. Regularly test contingency plans such as manual controls so that safety

critical functions can be maintained during a cyber incident.

Ransomware attacks have disrupted organizations around the world, from hospitals across Ireland, Germany and France to pipelines in the United States and banks in the U.K. The threats are serious, and they are increasing. We urge you to take these critical steps to protect your systems and the American public. The U.S. government is working with countries around the world to hold ransomware actors and the countries who harbor them accountable, and we stand ready to help you implement these best practices.

Additional Resources

FACT SHEET: President Signs Executive Order Charting New Course to Improve the Nation's Cybersecurity and Protect Federal Government Networks CISA - Ransomware Guidance and Resources Recommended Mitigation

[\(https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/12/fact-sheet-president-signs-executive-order-charting-new-course-to-improve-the-nations-cybersecurity-and-protect-federal-government-networks/\)](https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/12/fact-sheet-president-signs-executive-order-charting-new-course-to-improve-the-nations-cybersecurity-and-protect-federal-government-networks/).

Additional EPA cybersecurity best practices for the water sector can be found at the following links: EPA Cybersecurity Best Practices for the Water Sector



<https://www.epa.gov/waterriskassessment/epa-cybersecurity-best-practices-water-sector>

CISA's Cross-Sector Cybersecurity Performance Goals - <https://www.cisa.gov/cpg>

CISA 's Cyber Hygiene Services – <https://www.cisa.gov/cpg>

Questions about water security can be sent to Region 8 Water Security Coordinator, Nara Jirik at jirik.nara@epa.gov

GROUND WATER RULE SOURCE SAMPLE TAP INSTALLATION

Ground Water Rule Source Sample Tap Installation

A dedicated groundwater source sample tap is required under the National Primary Drinking Water Regulations (NPDWRs), as found in 40 CFR 141.400. Starting in the spring of 2022, when EPA Region 8 conducted sanitary surveys at Wyoming and Tribal public water systems, EPA began looking for dedicated groundwater source sample taps. If sample taps were not located during the survey for each groundwater source, a Significant Deficiency was included in the sanitary survey report.

If your groundwater public water system (PWS) has a routine Revised Total Coliform Rule (RTCR) total coliform positive (TC+) result, based on the NPDWR requirements in 40 CFR 141.402, you must:

- Collect a groundwater source sample within 24 hours of being notified of the TC+ result from the EPA or a lab if your water source is a well or spring.
- Samples must be collected from each groundwater source that was in use during the collection of the routine RTCR TC+ sample, be representative of raw source water quality (before treatment) and be analyzed for total coliform and *E. coli*.

- The source sample(s) at the groundwater source(s) (well or spring) must be collected BEFORE any treatment or storage tanks. Source samples may be collected before, at, or after pressure tanks (make sure the pump is running if taking a sample at or after a pressure tank).

You are required to have a designated sample tap at a location that allows testing directly from each individual water source. The tap should be of the smooth-nosed type without interior or exterior threads suitable for obtaining samples for bacteriological analysis and should not have a screen, aerator, or other such appurtenance.

If you have a surface water source, this requirement does not apply to your PWS. If you purchase water from another groundwater system, this requirement does not apply to you either. However, if you have a routine Revised Total Coliform Rule (RTCR) total coliform positive (TC+) result, you must notify the wholesale PWS that you purchase water from that they must take the source water sample(s) to meet the Ground Water Rule sampling requirement.

Please be proactive and install a designated sampling tap for each of your groundwater sources – and avoid a Significant Deficiency!

DRINKING WATER WATCH HAS A NEW HOME!

Drinking Water Branch

Drinking Water Watch

Region 8 Drinking Water Watch has a New URL

Region 8 Public Drinking Water Watch DWWPub has moved to the cloud and with this comes a new URL. To access DWWPub please use the following link and be sure to update your bookmarks:

<https://sdwisdww.epa.gov/DWWR8WY>

For questions about Drinking Water Watch, please contact Shirley Mlachak at mlachak.shirley@epa.gov or (303) 312-6061.

HOW MUCH CHLORINE RESIDUAL DO YOU NEED ?

Distribution System Chlorine Residual Monitoring and Reporting Requirements

All public water systems that add chlorine or chloramines to their drinking water are required to monitor the chlorine residual in the distribution system. The only exception is transient, non-community systems that use a groundwater source and disinfect voluntarily. All other systems must analyze the chlorine residual at the same time(s) and location(s) as when the Revised Total Coliform Rule (RTCR) samples are collected.

These results must be recorded on the water sample form submitted to the lab with the RTCR sample(s). This includes all routine and repeat RTCR samples. The system should indicate on the form whether the chlorine residual was measured as free or total chlorine. This can be designated using the method specified by your specific laboratory in their water sample form, or by marking an "F" for free or a "T" for total next to the recorded value. Only systems that use chloramines as the distribution system chlorine residual should monitor for total chlorine. All other systems should monitor for free chlorine.

If your laboratory fails to provide the water sample form to EPA, you may be required to provide it directly to R8DWU@epa.gov. Include your PWS ID number and "Chlorine Residuals" in the subject line of the submittal. Please work with your laboratory to ensure that chlorine residuals are reported directly to EPA or develop a plan to ensure that a copy of the water sample form with these results is sent to EPA.

Failure to conduct this monitoring and report the results to EPA is a violation of the drinking water regulations. Due to

resource constraints, EPA Region 8 disinvested in notifying systems of violations related to distribution system chlorine residual monitoring for several years. In May 2022, EPA Region 8 resumed notifying water systems by sending violation letters for failure to collect these required chlorine residual samples. All impacted systems were notified by email several months before this went into effect.

When monitored, a chlorine residual must be detected in the distribution system of public water systems that use surface water or groundwater under the direct influence of surface water (GWUDI). This requirement also applies to systems that purchase water from a wholesaler that uses one of these two source types. For systems subject to this requirement, the chlorine residual in the distribution system must be detected in at least 95% of the samples collected each month. It is a violation if a system fails to meet this requirement in any two consecutive months that the system serves water to the public. Failure to meet this requirement is a violation that requires tier 2 public notice within 30 days. Public water systems are also required to report the violation in their annual Consumer Confidence Report (CCR), if they are required to produce one.

EPA Region 8 recommends that all systems, including groundwater systems, maintain a minimum chlorine residual of 0.2 mg/L free chlorine or 0.5 mg/L total chlorine throughout the distribution system.

For public water systems that are classified as community systems or non-transient, non-community systems, the distribution system chlorine residual monitoring must indicate that the average distribution system chlorine

residual over a rolling 12-month period does not exceed 4.0 mg/L. Failure to meet this requirement is a violation that requires tier 2 public notice within 30 days.

If you have questions about these requirements and your system uses surface water or groundwater under the

direct influence of surface water (i.e., GWUDI), please contact Jake Crosby at crosby.jake@epa.gov or (303) 312-6389. If your system only uses or receives groundwater, please contact Seth Tourney at tourney.seth@epa.gov or (303) 312-6579.

The table below summarizes these monitoring requirements and the applicable limits.

	Public water systems that use groundwater or purchase water from a groundwater system		Public water systems that use surface water , groundwater under the direct influence of surface water (GWUDI ²) or purchase water from a system that uses one of these source types	
	Transient non-community (TNC) Systems ¹	Non-transient, non-community (NTNC) or Community (C) Systems ¹	Transient non-community (TNC) Systems	Non-transient, non-community (NTNC) or Community (C) Systems
Monitoring Required?	No	Yes	Yes	Yes
Chlorine residual must be detectable?	No	No	Yes	Yes
Running 12-month average of chlorine residual in distribution system must be below 4.0 mg/L?	No	Yes	No	Yes

1. There are a few systems that are required to maintain a specific chlorine residual level to meet 4-log virus inactivation requirements.
2. There are some GWUDI systems required to maintain a minimum chlorine residual of 0.2 mg/L in the distribution system because full surface water treatment has not yet been installed.

Chemical Sampling: The Importance of Best Sample Collection Practices

As our nation emerges from the covid pandemic, we continue to experience disruptions to the labor market, transportation, and material supply chains. As a result, ensuring that drinking water samples are appropriately collected and reach certified laboratories for analysis within required hold times and temperatures has become extremely challenging. Using best sample collection practices as a set of tools to preserve sample integrity can help operators mitigate obstacles within their control.

The following tips will help ensure that inorganic and organic chemical sampling is successful, that quality samples are shipped to your laboratory, and the water system you operate remains in compliance with the National Primary Drinking Water Regulations.

Sample bottles

Contact a certified laboratory to ask them to send you the sample bottles and instructions for the tests you will be requesting. Plastic, or clear or amber glass bottles will be used for sample collection. EPA Region 8's list of regulated inorganic and organic chemicals is available at <https://www.epa.gov/region8-waterops> under the "Regulations and Compliance" section. The list provides all chemical contaminants that are required to be sampled under each contaminant group. Ask the lab for sample bottles for EPA IOCs, SOCs, VOCs, asbestos, and/or nitrates, and provide them EPA's regulated analytes list. State requirements where the lab is physically located are sometimes different from EPA requirements, so make sure the lab understands that these tests are for the EPA. Do not ask for bottles by method. Each lab is certified for certain methods and is aware which are EPA-approved.

Sample locations

Use the appropriate sampling location as identified on your schematic for IOCs, SOCs, VOCs, and nitrates (examples: SS01/SP01, TP01/SP01). Depending on the requirements for your system, asbestos may be sampled at the entry point to the distribution system or within the distribution system at a location served by asbestos cement pipe. Your 2023 Annual Monitoring and Reporting Requirements Report can serve as another resource for the precise sampling locations for your water system.

Sample Collection and Eliminating the Potential for Cross Contamination

- Sample early in the compliance period so if something goes wrong you have time to resample.
- If possible, wash your hands before sample collection.
- Make sure there are no chemicals like gasoline, pesticides, oils, and solvents stored near the sampling location that could cross contaminate your samples.
- Wear gloves and eye protection when handling acids and other preservatives that you may be instructed to use while collecting samples.
- Do not touch the inside of the cap or bottle.
- Do not touch the bottle to the faucet.
- Do not place the lids in a pocket. Set bottle lids face up on a clean surface while sampling.
- Some bottles contain preservatives or other additives, so only use bottles that the lab provides you. Do not rinse the bottles.
- Pay special attention to sampling instructions, especially for volatile organic chemicals, which require the absence of air space in small bottles called VOA (volatile organic analysis) vials.
- Follow instructions for filling all sample bottles, including any recommended tap flushing actions or water stream thickness.
- Take note of the total volumes that are required to be collected for lab analysis. If you are not sure, contact your lab. Some bottles need filled completely (example: total PCBs), while others cannot be overfilled because the preservative concentration will be diluted.



Chains of Custody (COC)

A chain of custody is a legal document that is used to guarantee the identity and integrity of the sample (or data) from collection through reporting of the test results. It documents the chronological history of the sample.

Complete the COC with all relevant information. Include your public water system identification number (PWS ID) and system name. Clearly identify the sampling location (examples: SS01/SP01, TP01/SP01), plus the time and date of sampling. Provide a street address if the sample was obtained within distribution.

Do not specify methods of analyses on the COC. Instead, request EPA IOCs, SOCs, VOCs, asbestos, and/or nitrates, and directly provide the lab EPA's regulated contaminants list (referenced above). The EPA has approved multiple methods of analyses for chemical contaminants and labs must be certified to perform these methods. By specifying individual methods on your COC, you limit the laboratory's ability to perform all required tests, which could result in a failure to monitor violation.

Shipping

Shipping instructions should be included with your bottle set. If not, contact your lab for any recommended shipping instructions.

Freeze ice packs for at least 72 hours prior to sampling and do not sample until ice packs are frozen solid. Make sure you include enough ice packs to keep your samples cooled to less than 6°C (less than 42.8 °F) until they reach the lab.

Ship samples to the lab as soon as they are collected unless they are refrigerated overnight. Some samples require shipment right away because of short hold times. Asbestos samples have a 48-hour hold time and asbestos certified labs are located out of state.

Drinking Water Sample Hold Times	
(total time from collection to lab preparation or analysis)	
Chemical Contaminant:	Hold Time:
Nitrate	48 hours (unpreserved)
Nitrite	48 hours (unpreserved)
Total Nitrate + Nitrite	28 days (preserved)
Asbestos	48 hours
IOCs, SOCs, VOCs (other than nitrate/nitrite)	7, 14, 28, or 180 days (contaminant and method dependent)

Guidance for Sample Collection

See EPA's "Quick Guide to Drinking Water Sample Collection" at <https://www.epa.gov/region8-waterops/quick-guide-drinking-water-sample-collection> for additional information.

Reporting to EPA

A few laboratories will directly send results to EPA, but it is your responsibility to make sure EPA receives your results.

Questions?

If you have any questions, please contact Kendra Morrison at morrison.kendra@epa.gov or (303) 312-6145, or Laura Hult at hult.laura@epa.gov.

RTCR SAMPLE SITE PLAN

Revised Total Coliform Sample Siting Plans

Every public water system is required to have a Revised Total Coliform Sample Siting Plan (Plan). The purpose of the Plan is to specify where in the distribution system Routine and Repeat total coliform samples will be collected to make sure they are representative of the water quality in your system. The original Plan must be kept on-site for use by your water samplers and a copy must be sent to EPA to keep on file.

There are two parts to the Plan, the chart and the map:

THE CHART: The chart includes the sample sites:

- List the sites for Routine and Repeat total coliform monitoring in your distribution system; and
- List any source water sampling sites, if your water source is a well or spring.

THE MAP: The map of the distribution system must show the locations of your Routine and Repeat sample sites and your source water, as described in the Plan. You can use a diagram, distribution system map, aerial photo, etc. Clearly indicate if there are multiple distribution systems and if those distribution systems are connected to each other. The map should also indicate if there are pressure zones or areas that are only served by specific storage tanks or sources. Note: You cannot use the schematic that shows your nitrate sampling point as your map for your Plan.

A blank template with examples of charts and maps is available on the EPA Region 8 Water Ops website at <https://www.epa.gov/region8-waterops/revised-total-coliform-rule-sample-siting-plan>. The Plan will only be

considered complete if EPA receives both parts at the same time.

CHOOSING SAMPLE SITES: Routine and Repeat sample sites must be within the distribution system. They cannot be at the storage tank or in the treatment plant. When choosing Routine and Repeat sample sites try to avoid the following types of sample taps:

- Swivel-type faucets (because they are difficult to disinfect);
- Faucets with a single valve for hot and cold water;
- Faucets or taps with leaky packing material around the stem;
- Faucets or taps close to or below ground level;
- Faucets that point upward;
- Faucets that have threads on the inside of their spouts (because they are difficult to disinfect);
- Outdoor faucets; and
- Faucets with aerators because they may harbor bacteria.

CHANGING YOUR SAMPLE PLAN: If you ever need to make a change to your Plan, just create a new chart and map and send **both** parts to EPA together. If EPA doesn't receive an updated Plan, then we will assume you are following the last Plan that was received. If no Plan was submitted after 2016, then your system may have a violation and you need to submit a Plan immediately. Your Plan can be changed as often as needed but you are REQUIRED to collect samples from the places listed on your most current Sample Siting Plan or it may result in a monitoring violation. To date, most systems follow their Plans, and we thank you for your work keeping the drinking water bacteria-free!

LEAD AND COPPER RULE INVENTORY

New Requirement for Service Line Inventories

Exposure to lead in drinking water can cause serious health effects. Infants and children can have decreases in IQ and attention span and adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

While lead can enter drinking water from a variety of plumbing materials, lead service lines are a significant source of lead in drinking water. A service line is the pipe that connects the water main to the plumbing in a home

or building. When any part of that pipe is made of lead, it is called a lead service line. Developing an inventory of service line materials and identifying the location of lead service lines are key steps in getting lead service lines replaced to protect public health.



Who will be required to complete a service line inventory and what is the deadline?

The EPA finalized the Lead and Copper Rule Revisions (LCRR) in December 2021. The LCRR contains many changes, including a requirement for **all community and non-transient non-community water systems** to complete and submit an initial service line inventory by **October 16, 2024**.

What information is available on developing and maintaining service line inventories?

To assist systems with completing service line inventories, the EPA published a *Guidance for Developing and Maintaining a Service Line Inventory*, and a Service Line Inventory Template Excel file, both available at <https://www.epa.gov/ground-water-and-drinking-water/revise-lead-and-copper-rule>. The guidance provides a wealth of information, including best practices for inventory development and communicating information to the public. In addition, the EPA will soon publish a *Small Systems Guidance for Developing and Maintaining a Service Line Inventory* and several Fact Sheets.

EPA Region 8's Drinking Water Program is creating a new webpage specifically on service line inventories. This new webpage will include links to the National Guidances, Fact Sheets and training videos, the EPA Region 8 service line inventory template and forms, FAQs, information on funding opportunities, and links to public outreach materials. Please check back soon on the EPA Region 8's *Waterops* website at <https://www.epa.gov/region8-waterops> for more information.

What information must be included in the inventory?

The inventory must include all service lines connected to the public water system regardless of ownership status and actual or intended use. If the service line ownership is shared, the inventory must include the material type of both the customer-owned and the system-owned portion of the service line. EPA Region 8 recommends that the inventory also include lead goosenecks, pigtails and connectors where such information is available. Each service line, or portion of the service line where ownership is split, must be categorized as one of the following materials listed below, along with a location identifier such as a street address:

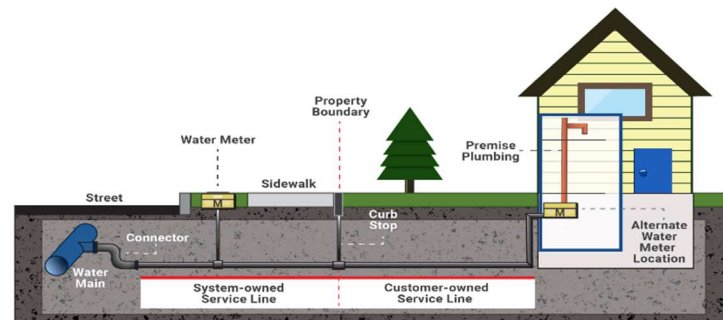
- **Lead:** All or a portion of the service line is lead.
- **Galvanized requiring replacement:** Galvanized iron or steel service line that is currently or was at any time downstream from a lead service line or is

currently downstream from a lead status unknown line.

- **Non-lead:** No portion of the service line consists of lead or galvanized requiring replacement.
- **Lead status unknown:** The service line is not known to be lead, galvanized requiring replacement or non-lead.

How do I develop and update the inventory?

Developing a service line inventory will take some investigation to determine the materials used throughout the drinking water distribution system. Several types of historical records, if available, must be reviewed to



develop the initial inventory. Historical records include distribution system maps and drawings, historical records on each service connection, meter installation records, previous materials evaluation, inspection and maintenance records, and construction and plumbing codes and records. Investigations are then used to verify historical records and to determine the material of any "lead status unknown" service lines. Some investigation methods include visual inspection of service line materials, water quality sampling, excavation and predictive modeling. Systems will need to identify and track information on service line materials as they are encountered during normal operations. Opportunities for data collection under normal operations include water meter reading, repair and replacement of water meters, service lines or water mains, backflow prevention inspections, and other street repair or capital projects with open cut excavations.

What funding and technical assistance is available for completing a service line inventory?

The 2021 Infrastructure Investment and Jobs Act (IIJA), also called the Bipartisan Infrastructure Law (BIL), provides a significant amount of dedicated funding for identification and replacement of lead service lines through the Drinking Water State Revolving Fund (DWSRF). These new funds provide a tremendous opportunity to make rapid progress

on permanently removing a significant source of lead in drinking water.

In **Wyoming**, the DWSRF program and new IIJA funds are managed by the Wyoming Office of State Lands and Investments in partnership with the Wyoming DEQ.

For **Tribal** systems, EPA is developing a new national contract to provide direct technical assistance for completing inventories. EPA Region 8 also is developing a new DWSRF grant program to award funds directly to qualified systems. Future construction projects to remove lead service lines identified in inventories may be funded by EPA's DWSRF partnership with the Indian Health Service.

During 2023, EPA Region 8 will be conducting education, outreach and training to Wyoming and Tribal communities and public water systems on the new requirements for service line inventories and lead service line replacement plans.

Wyoming systems - EPA Region 8 will also be working with Wyoming Rural Water, the Midwest Assistance Program,

and new EPA Environmental Finance Center awardees on additional technical assistance opportunities, particularly for small rural systems

Tribal systems - EPA Region 8 will also be working with the Midwest Assistance Program, EPA Environmental Finance Center awardees and new national contract awardees on additional technical assistance opportunities.

Details on planned education, outreach, training and technical assistance will be available at a later date and direct email outreach will be conducted if you are required to complete a service line inventory.

What if I have additional questions?

EPA Region 8 Denver has recently hired several new staff to assist with lead service line inventories and the new federal funding. For more information, please contact Jill Minter, Region 8's Lead Service Line Inventory Coordinator, at minter.jill@epa.gov or (303) 312-6084, or Erica Wenzel, LCR-LSL Inventory Specialist, at wenzel.eric@epa.gov or (303) 312- 6411.

