



THE STATE
of **ALASKA**
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Division of Water
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Greetings from the Capacity Development Program!

The Alaska Department of Environmental Conservation (ADEC) Capacity Development Program is tasked with facilitating technical, financial, and managerial assistance for water utility management. Enclosed you will find two resources that have been developed in consultation with certified labs and ADEC's Drinking Water Program to assist with compliance of water sample collection and compliance:

- The **Water Sampling Guidebook** details the different water samples required for regulated drinking water contaminants, sampling, and packing instructions, photos of sampling containers to use, forms to fill out, and all information required by the analyzing laboratory and the ADEC Drinking Water Program. Important reminders and helpful tips that are key to successful water sampling and analysis are also included in this guidebook.
- The **Water Sampling Wall Chart** mirrors the information in the Water Sampling Guidebook but in a summarized format. This moisture-resistant poster is meant to be used as a visually informative guide for quick sampling instructions on the go. **Please hang this poster on a wall or door accessible to water sample collectors inside the water treatment facility.**

Providing safe drinking water to consumers is vital in protecting public health. Routine water monitoring through water sampling that meets Federal and State standards helps ensure the water served is safe. We appreciate all efforts utilities make to meet this significant responsibility.

Sincerely,

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To visit our website and view or download electronic copies of this guidebook and wall chart, please scan the QR code below with your phone:



Drinking Water Sampling Guidebook for Public Water Systems



April 2024



Division of Water
Capacity
Development
Program

Alaska Department of Environmental Conservation

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1.0 Introduction

Collecting drinking water samples and sending them to a laboratory certified by the Alaska Department of Environmental Conservation (DEC) helps ***ensure that water is safe to drink***. Meeting safe drinking water standards prevents outbreaks of illness from harmful viruses, bacteria or other pathogens that may enter the water supply from septic systems, stormwater runoff, or other activities. This resource is intended for Alaskan public water systems that regularly serve 25 or more year-round residents or systems that have 15 or more service connections used by year-round residents.

This guidebook provides general information about types of water samples required, instructions for how and where to collect water samples from, types of sample bottles depending on sample type, and contact information for certified laboratories. Steps and procedures can vary depending on the laboratory that is used, so you should follow the instructions that are provided by the laboratory you are using if they are included with your sampling kit.

Use this guidebook in combination with your system's "Current Monitoring Summary" and the enclosed poster or wall chart with sampling instructions. The wall chart summarizes the various samples a public water system may be required to take. Hang the poster on the wall of your water facility and use it as quick reference for how and where to collect samples from.

Please note that your public water system may not be required to do all the sampling listed in this guidebook. Your system's Current Monitoring Summary will help you determine which samples are required for your specific water system.

Appendix A offers instructions for how to find your system's Current Monitoring Summary online and who to contact if you have questions. Your Current Monitoring Summary also lists your Public Water System Identification (PWSID) number necessary for filling out laboratory paperwork. This PWSID number is also known as Water System No. on the DEC Drinking Water Watch website: <https://dec.alaska.gov/dww/>

Appendix B provides information about facility and sampling point identification.

Appendix C provides information for finding laboratories that are approved by DEC to perform drinking water sample analyses. For the most up-to-date list of certified laboratories, please visit DEC's Drinking Water website: <https://dec.alaska.gov/eh/dw/laboratories/>

Appendix D offers samples of a Chain of Custody (COC) laboratory form to view required fields that the water sampler needs to fill out.



Appendix E includes sampling instructions for home residents or building representatives to collect samples to monitor lead and copper in their water supply.

1.1 Planning Ahead of Water Sampling

Know who can help. DEC has staff available who are happy to help answer any questions you may have as you work through the sampling process. Your system has an assigned Environmental Program Specialist (EPS) in the Drinking Water Program. It may also have an assigned Remote Maintenance Worker (RMW). To contact the Drinking Water program, call 907-269-7656 or 1-866-956-7656 (if you're calling outside of Anchorage) or visit <https://dec.alaska.gov/eh/dw/contact/> for their office locations and phone numbers. For assistance with contacting your assigned RMW, you can reach out to the RMW Program Coordinator at 907-269-7605. To view the statewide RMW Directory online, visit the RMW Program website <https://dec.alaska.gov/water/remote-maintenance/>

Find out what water samples you need to collect. Every year, the Drinking Water Program publishes monitoring summaries that tell you what samples you need to take, how many you need to take, and where you need to take them from. Appendix A shows you how to find and read your system's Current Monitoring Summary. This tells you what needs to be sampled and when. If you have previously printed one from the Drinking Water website, make sure it is current because summaries are updated each year.

Find out where to collect your water samples from. Consult with your DEC Drinking Water EPS to get your water sample siting plan that includes a map showing which sites to take samples from. 'Raw water samples' are collected from the water source; 'Entry Point to Distribution' samples are collected after water is treated but before it enters the distribution system; 'Distribution' samples are collected from the water taps fed by the distribution system.

Get your kit together. Call your laboratory to order sample kits for the tests you need. Sample kits provided by the lab should include instructions, Chain of Custody forms, sample bottles, labels for samples, and a cold pack all placed into a small cooler that can be used for shipping to the laboratory. Get this ready before sampling day.

Make a plan. Most samples must be refrigerated and have a time window they must be tested within, which is called the holding time. This window starts from the moment you collect the sample, so it helps to pick a day and have everything ready beforehand. Check the weather and flight schedules to ensure that your samples can get out and be received at the laboratory on time.

Call ahead. Call your local air carrier ahead of time to arrange for the samples to be transported to the laboratory. Call the lab ahead of time to let them know what day the samples are coming so they can pick them up at the airport. Try to send samples at the



beginning of a week and avoid Fridays for samples that must be tested with a few days, to ensure there is time for samples to be tested before the time limit runs out. Call the lab again the day of the sampling to let them know if the samples did or didn't make it on the plane so they know what to expect.

1.2 After Receiving Your Sampling Kit

Put the ice gel packs provided in a freezer until completely frozen or until sample collection time, whichever is longer.

Some sampling kits may include Temperature Blanks or a box of Trip Blanks.

A **Temperature Blank** is a prefilled bottle sent as part of the sampling kit that lab staff will use to determine if samples received are within the required temperature range for analysis. DO NOT open or use the Temperature Blank. It is only included with LT2 sampling kits to detect pathogens such as *Cryptosporidium* or *Giardia*. If included in the kit sent by the lab, put the Temperature Blank in a refrigerator until it is time to collect the sample.

Trip Blanks are prefilled bottles used to ensure that any compounds detected in the sample were not the result of contamination during the handling/sampling process prior to sample analysis. Trip Blanks will be provided by the lab inside a box labeled "Trip Blank". DO NOT open or use the Trip Blank box. It is only provided with sampling kits for Total Trihalomethanes (TTHM) and Volatile Organic Compounds (VOC). Samplers need to take the unopened box of Trip blanks with them as they collect water samples.

Store paperwork, containers, and cooler altogether in a safe place so you have everything you need on sampling day.

1.3 Things to Do on Sampling Day

Call the airline to confirm the flight is on schedule. Gather your sampling kit with cooler, lab forms, and bottles for sampling. Prepare to collect a specific sample according to the steps laid out in this guide or provided with the lab sampling kit.

Have an extra pair of nitrile gloves during sampling in case the first pair gets dirty or torn. Retrieve the sample bottle from the cooler. DO NOT rinse sample bottles because some may contain a preservative that must remain inside. Collect the sample. Fill out and attach the label to the sampling container.

Complete the laboratory's Chain of Custody form and any additional paperwork. Put everything in the cooler: sampling container, completed Chain of Custody form, Temperature or Trip Blanks (if included with the sample kit), and ice packs. Take the cooler to your local air carrier. Call the lab to confirm the sample is on its way. If the plane gets



weathered out and the sample is not going to make it out, call the lab to notify of the incident.

1.4 Filling Out a Chain of Custody (COC) Lab Form

The Chain of Custody form is provided by the certified lab along with the sample kit. For all water samples you collect, you need to fill out the COC form completely and accurately before shipping the sampled water to the lab. See Appendix D for samples of a COC form.

Use Correct PWSID on the COC Form. Ensure that you write the correct Public Water System ID (PWSID) that is unique to your water system. If you do not know your PWSID, you can find it on your Current Monitoring Summary or you can call your assigned DEC Drinking Water EPS. You can also go to DEC's Drinking Water Watch website, type in your water system's name to retrieve your Current Monitoring Summary and look up your system's PWSID. All certified labs are required to report the lab results to the DEC Drinking Water Program for compliance. Without the correct PWSID, the lab results may not be reported to DEC, and your system may not be given compliance credit for the sample collected.

It is important to provide the lab with a good contact number for the water system operator or other facility staff. The lab staff may need to call you in case of urgent sample concerns, such as a positive test for coliform or if the sample received is rejected for analysis, which would require immediate resampling.



2.0 Procedures for Sampling Raw Water

The following provides instructions for collection of raw water samples. These samples represent source water so they must be taken before any treatment occurs. Check your system's Current Monitoring Summary (see Appendix A) to see which samples your system requires and how often they need to be taken.

2.1 Long Term 2 (LT2) Enhanced Surface Water Treatment Rule

This sample is required for all public water systems using surface water sources or ground water sources under the direct influence of surface water to monitor for disease-causing pathogens such as Legionella, Giardia lamblia, and Cryptosporidium.

LT2 water samples are collected from the raw water source tap, prior to any treatment. Check your system's Current Monitoring Summary (see Appendix A) or your assigned Drinking Water Environmental Program Specialist for your specific LT2 monitoring schedule and collection site to determine where and when to take this sample.

The maximum holding time on a LT2 sample is 30 hours. Samples must be received by most laboratories Monday to Thursday during operating hours; most labs do not accept LT2 samples on Fridays to avoid weekend/overtime surcharges. Call the lab ahead of time if you need to make special arrangements for weekend analysis of your LT2 sample.



Figure 1. Example of 150 mL bottle for LT2 sampling

Materials required for sampling LT2:

- Nitrile gloves
- Eye protection
- 150 mL sterilized plastic bottle containing sodium thiosulfate (preservative)
- Temperature blank (prefilled bottles or vials sent by the lab) and ice gel packs
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label



Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary and your LT2 sampling plan to determine where to collect the sample. Ensure you follow the approved LT2 sampling schedule.
3. **LT2 samples must be analyzed within 30 hours of taking the sample.**
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Refrigerate Temperature Blank bottle until it's time to collect sample.
6. Store paperwork, containers, and cooler in a safe place until ready to use.
7. Remove any attachments to the faucet such as screens, aerators, or hoses.
8. Run **cold** water from the faucet for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves.
3. Open raw water source tap and slow water flow to thickness of a pencil.
4. Retrieve the sample bottle from the cooler.
5. DO NOT rinse the sample bottle because it has preservatives inside.
6. Collect the sample by filling the bottle between 100-150 mL lines from the approved sampling source tap, being careful not to overfill and lose the preservative inside the bottle.
7. Cap and close bottle.
8. Close the raw source water tap.
9. Put the water sample back in bubble bag.
10. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
11. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
12. Carefully pack the LT2 sample and the temperature blank bottle between the frozen ice packs and return the samples to the lab ASAP!
13. Samples need to be analyzed within 30 hours of collection.
14. Call lab and provide tracking info: Date/Time of Collection; Means of shipment (Client, Courier, Airline); Flight number and/or Airway Bill # and Estimated Time of Arrival (ETA); Your name and contact info for any questions or issues with the sample.



2.2 Total Organic Carbon (TOC) in Raw Water

Raw TOC samples are collected from the raw water source tap prior to any treatment. Both the raw TOC and treated TOC samples ([Section 3.7](#)) are needed to determine if sufficient TOC removal occurred between the raw water sampling point and the finished water monitoring point.



Figure 2. Example of 40 mL glass vial or 125 ml brown glass bottle for TOC sampling

Materials required for sampling TOC in raw water:

- Nitrile gloves
- Eye protection
- 125 mL sterilized plastic or brown glass bottle containing either Hydrochloric acid or Sulfuric acid (preservative)
- Ice gel packs
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary if required to sample to determine sampling frequency.
3. TOC samples have 28 days of holding time, but it is best practice to ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the faucet for 5-6 minutes to flush the line.



Sampling Steps:

1. Wash hands thoroughly.
2. Put on new nitrile gloves and safety glasses if sample bottle contains preservative that can burn the skin or eyes.
3. Retrieve the sample bottle from the cooler.
4. DO NOT rinse the sample bottle because it has preservatives inside.
5. Open the raw water source tap and slow water flow to thickness of a pencil.
6. Collect the sample by filling the bottle to the shoulder of the 125 mL sample bottle being careful not to overfill, spill over, and lose some of the preservative inside the bottle.
7. Cap and close the sample bottle.
8. Close the raw source water tap.
9. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
10. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
11. Carefully pack the raw TOC sample between the frozen ice packs within 15 minutes of collection. Samples need to be analyzed within 28 days of collection.
12. Keep at a temperature lower than 39°F. DO NOT freeze.
13. Call the lab to let them know of the sample shipped so they can pick it up with the courier.



3.0 Procedures for Sampling at the Entry Point to Distribution

This section provides instructions for collection of samples at the Entry Point to Distribution system but before it is distributed to the first customer. Check your system's Current Monitoring Summary to confirm which samples are required for your system and how often they need to be taken.

3.1 Nitrate (NO_3^-)

This sampling is required at least annually; more frequently if the system exceeds half the maximum contaminant level. Nitrate samples have a 48 hour hold time, so they should be transported to the laboratory as soon as possible. The sampling kit might include a 125 mL, 60 mL, or 40 mL plastic bottle.



Figure 3. Example of 125 mL bottle for Nitrate sampling

Materials required for sampling Nitrate:

- Nitrile gloves
- Eye protection
- Sample bottle from laboratory typically containing sulfuric acid (preservative)
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. **Nitrate samples must be analyzed within 48 hours of taking the sample.**
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the faucet for 5-6 minutes to flush the line.



Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
3. Slow water flow to thickness of a pencil. DO NOT rinse the sample bottle because it has preservatives inside.
4. Fill sample bottle to shoulder or bottom of the neck. Make sure bottle mouth doesn't come in contact with anything except the sample water. Avoid overfilling the sample bottle.
5. Cap and close bottle. Close the water tap.
6. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
7. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
8. Place the sample on ice in a cooler or a shipping container.
9. Nitrate samples have a 48-hour hold time, so samples should be transported to the laboratory as soon as possible. Keep at a temperature lower than 42°F.
10. Call the lab to let them know of the sample shipped so they can pick it up with the courier.

3.2 Regulated Inorganics, Old and New: Arsenic, Barium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, Total Antimony, Total Beryllium, Total Thallium

Multiple plastic sample bottles of varying sizes are needed for these inorganic contaminants. They each have a specific preservative and they are analyzed by different methods. The frequency of each sample varies, so make sure to check your system's Current Monitoring Summary to determine which samples are required and when each sample must be taken.



Figure 4. Example of various bottle sizes for sampling inorganics



Materials required for sampling regulated inorganic chemicals:

- Nitrile gloves
- Eye protection
- Sample bottle from laboratory
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. Mercury samples have 28 days of holding time and all others have 6 months of holding time, but it is best practice to ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the tap for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves and safety glasses. Some sample bottles may contain a preservative that can burn the skin or eyes.
3. DO NOT rinse the sample bottle because it has preservatives inside.
4. Slow water flow to thickness of a pencil.
5. Fill sample bottle to shoulder or bottom of the neck. Make sure bottle mouth doesn't come in contact with anything except the sample water. Avoid overfilling the sample bottle, particularly if the bottle contains a preservative.
6. Cap and close bottle. Turn off the faucet.
7. Invert the bottle at least 5 times to mix in the preservative.
8. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
9. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
10. Place the sample on ice in a cooler or a shipping container. Keep at a temperature lower than 39°F.
11. Call the lab to let them know of the sample shipped so they can pick it up with the courier.



3.3 Volatile Organic Compounds (VOC)

VOC are a class of chemicals that contain carbon and evaporate easily into air at normal temperatures. When sampling, make sure your clothes and hands are clean and free of grease, gasoline, diesel fuel, or oil to not impact lab results. Prior to sample collection, the area around the sampling point should be evaluated for possible air contamination from VOCs. Check for the recent use of petroleum products, solvents, cleaners, or degreasers that could potentially contaminate the sample. (For example, the storage of gasoline or other petroleum products in the pump house will give off many VOCs.) If such a situation is encountered, and particularly if there is an odor in the air, collect the sample at another nearby faucet, if possible. If there are no other sample taps at the entry point to distribution, ventilate the area as much as possible before sampling.

The sampling frequency for VOC varies for each system. Check your system's Current Monitoring Summary for when to sample.

VOC samples are usually taken using 40 mL clear or brown glass vials with ascorbic acid in the bottom of the vials and hydrochloric acid in a separate bottle as sample preservatives. There are generally three (3) vials included for sampling, and all three vials should be filled from the same sampling location at the entry point to distribution.

The sampling kit will also include Trip Blanks. Trip Blanks are prefilled bottles used to ensure that any compounds detected in the sample were not the result of contamination during the handling/sampling process prior to sample analysis. Trip Blanks will be provided by the lab inside a box labeled "Trip Blank". This box is not for samplers to open or use. Samplers need to take the unopened box of Trip blanks with them as they collect water samples.



Figure 5. Example of 40 mL glass vials with Teflon septum cap for VOC sampling

Materials required for sampling VOC:

- Nitrile gloves
- Eye protection
- Trip Blanks and 40 mL glass vials with septum caps
- Hydrochloric acid (HCl) bottle



- Ice or ice pack
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Important: While sampling for VOC, have clothes, hands, and body free of oil, grease, gasoline, diesel fuel or fumes and do not use Sharpie or markers with smells. These could affect VOC sample lab results.

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. VOC samples have 14 days of holding time, but it is best practice to ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the tap for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
3. DO NOT rinse the sample bottle because it has preservatives inside. Do not touch the inside of the vial cap.
4. Open tap and slow water to thickness of a pencil.
5. Slowly fill each vial to $\frac{1}{2}$ full and then swirl to dissolve the ascorbic acid.
6. Take the small bottle of HCl that is provided for each vial and add the contents to the 40 mL vial. NOTE: HCl may cause burns so use proper eye, hand, and clothing protection.
7. Slowly fill the rest of the vial by allowing water to gently flow down the inside of the vial until it is filled all the way to the top.
8. Create a small, raised water level (meniscus) on the top of the vial.
9. Gently place the cap on the vial so that no air bubbles are present in the bottle and the excess water from the meniscus spills down the sides of the bottle. Close the water tap.
10. Check to make sure that the vial or bottle does not contain air bubbles by inverting the bottle several times. If air bubbles are present in the vial or bottle, slowly



remove the cap and fill the cap with a small amount of water and add this water to the top of the sample and recap. Repeat until no air bubbles are present.

11. Place samples on ice inside a container to keep samples cold.
12. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
13. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
14. Samples must arrive at the lab within 14 days. Keep at a temperature lower than 39°F.
15. Call the lab to let them know of the sample shipped so they can pick it up with the courier.

3.4 Synthetic Organic Compounds (SOC)

SOC are carbon-based compounds of man-made origin that can enter a drinking water source or system through surface water runoff or infiltration. Some of these contaminants include herbicides, pesticides, carbamate pesticides, Glyphosate, Endothall, Diquate, Low Level Ethylene Dibromide (EDB) and Dibromochloropropane (DBCP). Because SOC are not frequently used in Alaska and because certain water systems are not susceptible to this contamination, your system may have or be eligible for an SOC waiver. If your system has an SOC waiver, your Monitoring Summary will indicate when you need to submit a renewal application. SOC waivers are only valid for three years.

The sampling frequency for SOC varies for each system. If your system does not have an SOC waiver, check your system's Current Monitoring Summary for when to sample. Each group or individual analyte requires separate sample bottles with different preservatives. Check with the lab if you have any questions about the bottles sent in your SOC sampling kit. Typical bottles used are 40 mL glass vials or larger brown glass bottles.



Figure 6. Example of 40 mL glass vial or brown glass bottle for SOC sampling



Materials required for sampling SOC:

- Nitrile gloves (make sure the gloves are phthalate free to not compromise the sample)
- Eye protection
- Sample bottles specific to analyte or group of analytes
- Ice or ice pack
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. SOC samples have 7 days of holding time so ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the tap for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves and safety glasses. Some sample bottles may contain a preservative that can burn the skin or eyes.
3. Open tap and slow water flow to thickness of a pencil.
4. DO NOT rinse the sample bottle because it has preservatives inside.
5. Fill sample vial just to overflowing. If the brown glass bottle is used, fill to within an inch or two off the top of the bottle. Avoid overfilling the vial or bottle.
6. Cap and close bottle.
7. Check to make sure that the vial or bottle does not contain air bubbles by inverting the bottle several times. If air bubbles are present in the vial or bottle, slowly remove the cap and fill the cap with a small amount of water and add this water to the top of the sample and recap. Repeat until no air bubbles are present.
8. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
9. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.



10. Place sample on ice in a cooler or shipping container. Keep at a temperature lower than 39°F.
16. SOC samples must arrive at the lab within 7 days after sample collection. Call the lab to let them know of the sample shipped so they can pick it up with the courier.

3.5 Radionuclides: Total Gross Alpha and Radium 226 & 228

Total Gross Alpha, Radium 226 and Radium 228 are regulated radionuclides in public water systems. The sampling frequency for radionuclides varies for each system. Check your system's Current Monitoring Summary to know when to sample. These radionuclides can be sampled with one single 2 L container (sometimes referred to as a cubitainer) or separately using other sampling containers as needed.



Figure 7. Example of 2 Liter cubitainer for sampling radionuclides

Materials required for sampling Total Gross Alpha and Radium 226 & 228:

- Nitrile gloves
- Eye protection
- 2 L plastic bottle or cubitainer typically containing nitric acid (preservative)
- Ice or ice pack
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. Radionuclide samples have 6 months of holding time, but it is best practice to ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.



5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the tap for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
3. Open the tap and slow water flow to thickness of a pencil.
4. DO NOT rinse the sample bottle because it has preservatives inside.
5. Fill sample container to within an inch or two off the top. DO NOT overfill. Ensure bottle mouth does not come in contact with anything except the sample water.
6. DO NOT touch the inside of the container cap. Cap and close the container.
7. Close the water tap.
8. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
9. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
10. Place sample in a cooler or shipping container. For Total Gross Alpha, keep temperature lower than 50°F. For Radium 226 and 228, keep temperature lower than 39°F.
11. Samples should arrive at lab as soon as possible or not later than 6 months after sample collection. Call the lab to let them know of the sample shipped so they can pick it up with the courier.

3.6 Free Chlorine Residual (Sampling at Entry point to Distribution)

Public water systems that disinfect drinking water have specific monitoring and reporting requirements for Chlorine Residual at Entry Point to Distribution. The federal requirement for minimum daily concentration of Chlorine Residual is 0.2 mg/L. Monitoring and recording is required daily.

Concentrations of Chlorine Residual at Entry Point must be analyzed on site and recorded (in mg/L) on the Monthly Operating Report for submittal to DEC every month. Samples must be taken at the water tap after all treatment but prior to the first customer tap.

There are different types of test kits that can be used to measure concentrations of Chlorine Residual in a drinking water sample. This test requires using DPD Free Chlorine (not Total Chlorine) Reagents that have not expired.



Figure 8. Examples of Chlorine Residual analyzers, vials, and Free Chlorine Reagents

Materials required for sampling Chlorine Residual at Entry Point to Distribution:

- Approved chlorine residual analyzer test kit with manufacturer's instructions.
- Unexpired Free Chlorine (not Total Chlorine) powder reagents.
- Form for Monthly Operating Report.

Pre-Sampling Steps:

1. Ensure you have unexpired Free Chlorine Reagents on hand.
2. Set up the test kit.

Sampling Steps:

1. Wash hands thoroughly.
2. Run water from the faucet until temperature is stabilized.
3. Collect a "blank" sample by filling one vial with 10 mL of water. Wipe the vial with a lint-free, clean cloth or chem wipes to remove fingerprints or dirt from the vial. Insert vial into the instrument and cover.
4. Turn the instrument on. Press the "0" button to zero out the instrument.
5. Take out the sample vial, add unexpired DPD reagent (Free Chlorine, not Total Chlorine) to the vial. Screw cap on and swirl to mix water and reagent.
6. Within one minute of adding the reagent, insert the mixed sample vial into the instrument. Arrange the sample bottle so that the white diamond is facing you. Cover the vial snugly with the instrument cap.
7. Press the start button. Results will appear shortly in mg/L.
8. Record the reading (in mg/L) on the Monthly Operating Report for submittal to DEC. Chlorine residual concentrations at Entry Point must be monitored daily.



Operator Report				
Requirement	Location	Sampling Frequency	Last Report	
TURBIDITY	After Filters	6 samples 31 days per month	07/01/2023	Test and record daily. Send reports to ADEC on the last day of the month (before the 10th day of the following month).
CHLORINE	Distribution System	Same time/place as routine TCR sample	08/01/2023	
FLUORIDE	Entry Point	1 samples 20 days per month	06/01/2023	
CHLORINE	Entry Point	1 samples 31 days per month	07/01/2023	

Figure 9. Example of Chlorine Sampling Requirements at Entry Point

3.7 Total Organic Carbon (TOC) in Treated Water

Treated TOC samples are collected after all the water treatment process but before the first customer tap. Both the raw TOC ([Section 2.2](#)) and treated TOC samples are needed to determine if sufficient TOC removal occurred between the raw water sampling point and the finished water monitoring point.



Figure 10. Example of 40 mL glass vial or 125 ml brown glass bottle for TOC sampling.

Materials required for sampling TOC in treated water:

- Nitrile gloves
- Eye protection
- 125 mL sterilized plastic or brown glass bottle containing either Hydrochloric acid or Sulfuric acid (preservative)
- Ice gel packs
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample.



3. TOC samples must be collected from approved sites and can be analyzed within 28 days of collection.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run **cold** water from the faucet for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly.
2. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
3. Retrieve the sample bottle from the cooler.
4. DO NOT rinse the sample bottle because it has preservatives inside.
5. Open the water tap at Distribution and slow water flow to thickness of a pencil.
6. Collect the sample by filling the bottle to the shoulder of the 125 mL sample bottle being careful not to overfill, spill over and lose the preservative inside the bottle.
7. Cap and close the sample bottle.
8. Close the water tap.
9. Put the water sample back in bubble bag within 15 minutes of collection with frozen cooling material.
10. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
11. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
12. Carefully pack the treated TOC sample between the frozen ice packs and ship them to the lab. Samples need to be analyzed within 28 days of collection.
13. Keep at a temperature lower than 39°F. DO NOT freeze.
14. Call the lab to let them know of the sample shipped so their staff can pick up with the courier.



4.0 Procedures for Sampling at the Distribution

This section provides instructions for collecting samples supplied by the water distribution system. These samples must be taken throughout the distribution system. Check your system's Current Monitoring Summary (see Appendix A) to see which samples your system requires and how often they need to be taken.

4.1 Total Coliform

If your system serves 1,000 or fewer people, you will be required to take one coliform sample per month. Larger systems may have more sampling requirements. Check your DEC-approved Coliform Site Sampling and Monitoring Plan to determine where to take the coliform sample.

The maximum holding time on a coliform sample is 30 hours. For most labs, samples must be received by laboratory Monday to Thursday during operating hours. Most labs do not accept Total Coliform samples on Fridays to avoid weekend/overtime surcharges. Call the lab ahead of time if you need to make special arrangements for weekend analysis of your Total Coliform sample.

When you receive the sampling kit from the lab, check that the coliform sample bottle is sterile, sealed, showing the 100 mL line, and contains sodium thiosulfate (white powder inside the sample bottle). The sodium thiosulfate will consume any chlorine in the water to prevent any interference with the sample. **DO NOT rinse or remove the sodium thiosulfate from the bottle.**



Figure 11. Example of bottle for Total Coliform sampling

Materials required for sampling Total Coliform:

- Nitrile gloves
- Eye protection
- Alcohol pad or spray bottle with bleach



- 100 mL sterilized plastic bottle containing sodium thiosulfate (preservative)
- Zip lock bag
- Ice or ice pack
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. **Coliform samples must be analyzed within 30 hours of taking the sample.**
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Put on nitrile gloves and safety glasses.
7. Remove any attachments to the faucet such as screens, aerators, or hoses.
8. Wipe the end of the faucet with an alcohol pad or use a spray bottle with bleach to sterilize the end of the faucet.
9. Run **cold** water from the faucet for 5-6 minutes to flush the line.

Sampling Steps:

1. Wash hands thoroughly before collecting a sample and be careful not to sneeze or cough while collecting the sample. Handle the sample bottles carefully as they are pre-sterilized.
2. Put on new nitrile gloves.
3. Slow water flow to thickness of a pencil.
4. DO NOT rinse the sample bottle because it has preservatives inside.
5. Fill sample bottle to the 100 mL line. Make sure bottle mouth doesn't come in contact with anything except the sample water.
6. Cap and close bottle.
7. Close the water tap.
8. Invert the bottle at least 5 times to mix in the preservative.
9. Place the sample inside a zip lock bag. Place the zip lock bag containing the sample on ice in a cooler or box. Keep at a temperature lower than 39°F.
10. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
11. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.



12. Total Coliform sample must arrive at the lab for analysis within 30 hours after collection. For most labs, total coliform samples are accepted between Monday - Thursday. Call ahead if needing weekend analysis.
13. Call laboratory to let them know the following information to track your sample: Date/Time of Collection; Means of shipment (Client, Courier, Airline); Flight number and/or Airway Bill # and Estimated Time of Arrival (ETA); Your name and contact information in case there is a question or problem with the sample.

If the result of any routine monthly sample is positive for Total Coliform or *E. coli*, the laboratory will call your system. Within 24 hours of being notified by the laboratory, your system needs to obtain repeat coliform samples from the following locations:

- Routine sampling location where coliform-positive result occurred.
- Five service connections upstream from routine sampling location (as best as possible).
- Five service connections downstream from routine sampling location (as best as possible).

If the system is served by a well, you will have to obtain a coliform sample from each well in use on the day the coliform-positive sample occurred. Sampling of well water needs to be from raw water and taken prior to treatment or chemical addition. Systems should keep extra sample bottles on hand in the event repeat sampling is required to ensure the timeframe for sample collection is met.

The laboratory will analyze the three repeat samples and groundwater sample (if required) for both Total Coliform and *E. coli*. Coordinate with your assigned DEC environmental program specialist (EPS) or call DEC's Drinking Water Program at 907-269-7656 or 1-866-956-7656 (if you're calling outside of Anchorage) on all required follow-up actions depending on sample results.

4.2 Free Chlorine Residual (Sampling at Distribution)

Public water systems that disinfect drinking water have specific monitoring and reporting requirements for chlorine residual in the distribution system. These requirements are listed in the Current Monitoring Summary. Chlorine Residual at the distribution system must be analyzed at the same location and time the Total Coliform sample is taken. Record the residual concentration on the Chain of Custody (COC) form and submit it along with the Total Coliform sample collected from the same site.



There are different types of test kits that can be used to measure concentrations of Chlorine Residual in a drinking water sample. This test requires using DPD Free Chlorine (not Total Chlorine) Reagents that have not expired.



Figure 12. Examples of Chlorine Residual analyzers, vials, and Free Chlorine Reagents

Materials required for sampling Chlorine Residual at Distribution:

- Approved chlorine residual analyzer test kit with manufacturer's instructions.
- Unexpired Free Chlorine (not Total Chlorine) powder reagents.
- Chain of Custody form from the lab.

Pre-Sampling Steps:

1. Ensure you have unexpired Free Chlorine Reagents on hand.
2. Set up the test kit prior to collecting the Total Coliform sample because chlorine concentration must be analyzed at the same site and time as the coliform sample.

Sampling Steps:

1. Wash hands.
2. Run water from the faucet until temperature is stabilized.
3. Collect a "blank" sample by filling one vial with 10 mL of water. Wipe the vial with a lint-free, clean cloth or chem wipes to remove fingerprints or dirt from the vial. Insert vial into the instrument and cover.
4. Turn the instrument on. Press the "0" button to zero out the instrument.
5. Take out the sample vial, add unexpired DPD reagent (Free Chlorine, not Total Chlorine) to the vial. Screw cap on and swirl to mix water and reagent.
6. Within one minute of adding the reagent, insert the mixed sample vial into the instrument. Arrange the sample bottle so that the white diamond is facing you. Cover the vial snugly with the instrument cap.
7. Press the start button. Results will appear shortly in mg/L.
8. Record the reading (in mg/L) under the section for "Chlorine Residual" on the COC form for the Total Coliform sample. If such section is not on the form, write the chlorine residual reading on the form indicating that it is for the Total Coliform sample. This information is especially important if the coliform and chlorine residual



are being monitored as a repeat sample for a previous coliform-positive result. The COC with chlorine residual reading needs to be submitted to the lab along with the Total Coliform sample.

- Record the concentration of Distribution Chlorine Residual on your Monthly Operating Report for submittal to DEC as noted on your Current Monitoring Summary.

Operator Report				
Requirement	Location	Sampling Frequency	Last Report	
TURBIDITY	After Filters	6 samples 31 days per month	07/01/2023	Test and record daily. Send reports to ADEC on the last day of the month (before the 10th day of the following month).
CHLORINE	Distribution System	Same time/place as routine TCR sample	08/01/2023	
FLUORIDE	Entry Point	1 samples 20 days per month	06/01/2023	
CHLORINE	Entry Point	1 samples 31 days per month	07/01/2023	

Figure 13. Example of Chlorine Sampling Requirement for Distribution System

4.3 Lead and Copper

Lead and copper samples are taken from indoor faucets after the water has not been used for six hours. This is called first-draw sampling. Usually, taking the sample first thing in the morning is preferable. Most public water systems are required to take five lead and copper samples each year. Check your Current Monitoring Summary to confirm sampling frequency and timing. Contact your Drinking Water EPS or your RMW to get a copy of your system’s Lead and Copper Monitoring Plan to determine collection sites. Lead and copper samples should be taken from an indoor cold-water faucet not connected to a water softener or filtration system.

One-liter plastic bottles containing preservatives are typically used to take samples. Wide-mouth bottles are recommended.



Figure 14. Example of bottle for lead and copper sampling

Materials required for sampling lead and copper:

- The system’s Current Monitoring Summary specifies how many samples are needed. At least five 1-Liter plastic bottles containing nitric acid (preservative) are



supplied. Water system operators may want to obtain additional sample bottles in the event a homeowner does not take the sample or other problems are encountered.

- Shipping container
- Chain of Custody form
- Shipping label

Pre-sampling steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Lead and Copper samples have a 14-day hold time if they are not acid preserved and a 6-month hold time if they are acid preserved, but it is best practice to ship samples for analysis as soon as possible.
3. Coordinate with homeowner or building representatives at the designated sampling site before delivering bottles.
4. Remind the homeowner that they cannot use water from the tap to be sampled for at least six (6) hours. This is the minimum water stagnation time prior to sampling.
5. Review instructions with each water sampler about where and how to properly collect a sample.
6. Remind homeowner or building representatives a few days in advance about sampling prior to delivering the sample bottle and establish the day and time that the sample bottles will be delivered.
7. Arrange with homeowner or building representative for sample bottle pick-up.

Sampling Steps for home residents and building representatives:

1. Select a cold-water faucet inside the residence or building. Ensure that the building does not have a water softener or filter. Water system operator should confirm location with resident or building representative prior to the sample being taken.
2. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
3. DO NOT remove any screens or aeration devices from the faucet.
4. DO NOT open the faucet and run any water for at least 6 hours before collecting the sample. DO NOT intentionally flush the water line after the start of the 6-hour water stagnation period.
5. Individuals taking the sample should wear gloves and eye protection. The sample bottle may contain a small amount of nitric acid that could harm skin and eyes.
6. DO NOT rinse the bottle before filling or touch the inside of the bottle cap.
7. Write the time, date, and faucet location (kitchen or bathroom sink) on the bottle and/or lab paperwork. Each paperwork must be identified with the corresponding sample bottle.



8. Remove cap. Place the sampling container under the water tap and collect the first water out of the tap. Fill the bottle to the shoulder. DO NOT overfill the bottle. Overfilling will remove the preservative.
9. Place the cap on the bottle.
10. Invert the bottle at least 5 times to mix in the preservative.
11. Give the filled sample bottles and paperwork to your water operator for lab shipment.

Steps to be conducted by the system operator:

1. If the water operator is collecting the lead and copper sample, follow sampling steps above.
2. Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms. Be sure to note which faucet the sample was collected from, time faucet was shut off, time sample was collected, and any other pertinent information required on the form.
3. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
4. Place sample bottles in shipping container and deliver to laboratory as soon as possible. Though holding temperature is not regulated, avoid freezing. Lead and copper samples must be analyzed within 6 months after collection if the preservative is in the bottle, or 14 days if the preservative is not included.

4.4 Total Trihalomethanes (TTHM)

This sampling is required for systems that disinfect or add chlorine to distributed water. TTHM are disinfection byproducts that form when organics come into contact with chlorine.

Contact your assigned Drinking Water Environmental Program Specialist at DEC's Drinking Water Program to get a copy of your system's most recent Disinfectants/Disinfection Byproduct (D/DBP) Monitoring Plan. Your D/DBP Plan determines where and when to take TTHM samples. Your system's Current Monitoring Summary also lists how many samples are required at what time of the year. The D/DBP rule is very specific to location and time of monitoring. If samples are not monitored according to the DEC-approved collection site and month or quarter of the year, the lab results may not be accepted for compliance.

TTHM samples are usually taken using 40 mL glass vials with ascorbic acid in the bottom of the vials and hydrochloric acid in a separate bottle as sample preservatives. There are generally three (3) vials included for sampling, and all three vials should be filled from the same sampling location at the entry point to distribution.



The sampling kit will also include Trip Blanks. Trip Blanks are prefilled bottles used to ensure that any compounds detected in the sample were not the result of contamination during the handling/sampling process prior to sample analysis. Trip Blanks will be provided by the lab inside a box labeled "Trip Blank". This box is not for samplers to open or use. Samplers need to take the unopened box of Trip blanks with them as they collect water samples.



Figure 15. Example of 40 mL glass vials for TTHM sampling

Materials required for sampling TTHM:

- Nitrile gloves
- Eye protection
- 40 mL glass vials with septum caps for sampling
- Trip Blanks
- Hydrochloric acid (HCl) bottle
- Ice or ice pack
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. TTHM samples have 14 days of holding time, but it is best practice to ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Remove any attachments to the faucet such as screens, aerators, or hoses.
7. Run cold water from the faucet for 5-6 minutes to flush the line.



Sampling steps:

1. Ensure the correct sample location is used as designated in the system's D/DBP Monitoring Plan.
2. Wash hands thoroughly.
3. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
4. DO NOT rinse the vials or touch the inside of the vial cap.
5. Open tap and slow water to thickness of a pencil.
6. Slowly fill each vial to $\frac{1}{2}$ full and then swirl to dissolve the ascorbic acid.
7. Take the small bottle of hydrochloric acid that is provided for each vial and add the contents to the 40 mL vial. NOTE: HCl may cause burns so use proper eye, hand, and clothing protection.
8. Slowly fill the rest of the vial by allowing water to gently flow down the inside of the vial until it is filled all the way to the top.
9. Create a small, raised water level (meniscus) on the top of the vial.
10. Gently place the cap on the vial so that no air bubbles are present in the bottle and the excess water from the meniscus spills down the sides of the bottle. Close the water tap.
11. Check to make sure that the vial or bottle does not contain air bubbles by inverting the bottle several times. If air bubbles are present in the vial or bottle, slowly remove the cap and fill the cap with a small amount of water and add this water to the top of the sample and recap. Repeat until no air bubbles are present.
12. Place samples on ice inside a container to keep samples cold.
Fill out the Chain of Custody (COC) form completely and accurately to identify each sample bottle, such as PWSID, system name and contact information, type of sample, and sample location. See Appendix D for samples of the COC forms.
13. Ship each sample bottle to the lab with corresponding COC form. Keep copy of the completed COC form for your files.
14. Samples must arrive at the lab within 14 days.

4.5 Haloacetic Acids (HAA5)

This sampling is required for systems that disinfect or add chlorine to distributed water. HAA5s are disinfection byproducts that form when organics come into contact with chlorine.

Contact your assigned Drinking Water Environmental Program Specialist at DEC's Drinking Water Program to get a copy of your system's most recent Disinfectants/Disinfection Byproduct (D/DBP) Monitoring Plan. Your D/DBO Plan determines where and when to take HAA5 samples. Your system's Current Monitoring Summary also lists how many samples are required at what time of the year. The D/DBP rule is very specific to location and time



of monitoring. If samples are not monitored according to the DEC-approved collection site and month or quarter of the year, the lab results may not be accepted for compliance.

HAA5 samples are typically taken using 250 mL glass brown bottles. The sample bottles will contain ammonium chloride as sample preservative.



Figure 16. Example of 250 mL brown glass bottle for HAA5 sampling

Materials required for sampling HAA5:

- Nitrile gloves
- Eye protection
- One 250 mL brown glass bottle for sampling
- Ice or ice pack
- Cooler or Styrofoam box
- Chain of Custody form
- Shipping label

Pre-Sampling Steps:

1. Coordinate any special shipping or transportation needs ahead of time.
2. Check your Monitoring Summary to determine where to collect the sample. Ensure you have the currently approved sample schedule.
3. HAA5 samples have 14 days of holding time, but it is best practice to ship samples for analysis as soon as possible.
4. Upon receipt of sampling kit from the lab, if ice gel packs are provided, put them in the freezer until completely frozen or until sample collection, whichever is longer.
5. Store paperwork, containers, and cooler in a safe place until ready to use.
6. Run cold water from the tap for 5-6 minutes to flush the line.

Sampling steps:

1. Ensure the correct sample location is used as designated in the system's D/DBP Monitoring Plan.
2. Wash hands thoroughly.



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3. Put on nitrile gloves and safety glasses. Each sample bottle contains a preservative that can burn the skin or eyes.
4. DO NOT rinse the vials or touch the inside of the bottle cap.
5. Open tap and slow water to thickness of a pencil.
6. Slowly fill each vial or bottle by allowing the water to gently flow down the inside of the bottle. If using the 250 mL bottle, fill to bottle shoulder only.
7. Place sample on ice inside a container to keep sample cold.
8. Fill out the Chain of Custody form provided with sampling containers and ship to the laboratory as soon as possible. HAA5 samples must arrive at the lab within 14 days.



5.0 References

United States Environmental Protection Agency (USEPA). *Quick Guide to Drinking Water Sample Collection, Second Edition, September 2016*. Available at:

https://www.epa.gov/sites/default/files/2015-11/documents/drinking_water_sample_collection.pdf

United States Environmental Protection Agency (USEPA). *National Primary Drinking Water Regulations*. Available at: <https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations#one>

United States Environmental Protection Agency (USEPA). *National Primary Drinking Water Regulations: A Table*. Available at: https://www.epa.gov/sites/default/files/2016-06/documents/npwdr_complete_table.pdf

Alaska Department of Environmental Conservation. Drinking Water Program website: <https://dec.alaska.gov/eh/dw>



Appendix A: Retrieving your system’s “Current Monitoring Summary”

The Drinking Water Program of the Alaska Department of Environmental Conservation (DEC) publishes a Monitoring Summary listing water sampling requirements specific to each water system. This information is updated regularly. Current Monitoring Summaries can be generated at the following website: <https://dec.alaska.gov/DWW/>. You can also google or run an online search for “DEC Drinking Water Watch”. If you have questions about your system’s Current Monitoring Summary or need assistance understanding and planning for when to take samples, reach out to the Drinking Water Program by calling 907-269-7656 or 1-866-956-7656 (if you’re calling outside of Anchorage).

In the following example, the Napakiak Community Water System is used to demonstrate how to navigate the Drinking Water Watch website. Follow the steps listed below to generate, view, and download a copy of the Current Monitoring Summary for your public water system.

1. Type the name of the public water system.

The screenshot shows the 'DRINKING WATER WATCH' interface. At the top, it says 'Division of Environmental Health DRINKING WATER PROGRAM'. Below that is a breadcrumb trail: 'You Are Here: DEC / EH / DW / Drinking Water Watch'. A help link is provided: 'Refer to the Drinking Water Watch Help webpage or select the Help with this page link on each individual page for guidance on how to navigate Drinking Water Watch.' The main section is titled 'Search Systems and Samples' with a 'Help with this page' link. Under 'PUBLIC WATER SUPPLY SYSTEMS SEARCH PARAMETERS', there are several search criteria: 'Water System No.' (text input), 'Water System Name' (text input, highlighted in yellow), 'Region Served' (dropdown menu set to 'All'), 'Water System Type' (dropdown menu set to 'All'), 'Primary Source Water Type' (dropdown menu set to 'All'), and 'Point of Contact Type' (dropdown menu set to 'None'). A blue 'Search For Water Systems' button is below these fields. Under 'SAMPLE SEARCH PARAMETERS', there is a 'Sample Class' dropdown menu (set to 'Click to select a value...'), a 'Sample Collection Date Range' with two calendar icons and a 'To' label, and a note: '(Sample Search provides results for the last 2 years if date range is left blank.)'. A grey 'Search For Samples' button is below these fields. At the bottom, there are 'Clear' and 'Glossary' buttons.



- Select the correct water system from the list of systems provided.

Division of Environmental Health
DRINKING WATER PROGRAM

DRINKING WATER WATCH

You Are Here: DEC / EH / DW / Drinking Water Watch / Water Systems

Water System Search Results [Help with this page](#)

WATER SYSTEM NO.	WATER SYSTEM NAME	STATUS	REGION SERVED	SOURCE TYPE
AK2271253	LKSD NAPAKIAK HS & ELEM	A	BETHEL	GW
AK2262319	NAPAKIAK W.S. CENTRAL WELL	A	BETHEL	GW
AK2262301	NAPAKIAK WASHETERIA	A	BETHEL	GW

Total Number of Records Fetched = 3

[Public Notices](#) • [Regulations](#) • [Statutes](#)
[Press Releases](#) • [Contact](#) • [Accessibility](#)

Department of Environmental Conservation
Mailing Address: P.O. Box 111800
Juneau, Alaska 99811
Location: 410 Willoughby Avenue, Juneau

- Select "Current Monitoring Summary" under Water System Details. The website will automatically save a PDF file to your computer. Open the file to view/print the summary.

Division of Environmental Health
DRINKING WATER PROGRAM

DRINKING WATER WATCH

You Are Here: DEC / EH / DW / Drinking Water Watch / Water Systems / System Details

Water System Details [Help with this page](#)

Water System Facilities	Source Water Assessment Summary	Drinking Water Protection Area Map
Coliform/Microbial Sample Results	Coliform Sample Summary Results	Lead And Copper Sample Summary Results
Non-Coliform Samples/Results by Analyte	Non-Coliform Samples/Results	Violations/Enforcement Actions
Sample Schedules	Site Visits	Milestones
Current Monitoring Summary		

SYSTEM

WATER SYSTEM NO. :	AK2262319		
WATER SYSTEM NAME :	NAPAKIAK W.S. CENTRAL WELL	FEDERAL TYPE :	Community
PRINCIPAL COUNTY SERVED :	BETHEL	PRIMARY SOURCE :	GW
STATUS :	A	ACTIVITY DATE :	08-01-1986



4. Determine the required water sampling for your water system.

The screenshot below shows the format of a Current Monitoring Summary. Notice the arrows below. To determine what water samples are required from your water system, look for the **Public Water System ID**, the different water monitoring areas such as Distribution, Treatment Plant, Source(well) and Facility IDs e.g., DS001, TP001, WL001.

Monitoring Summary for NAPAKIAK W.S. CENTRAL WELL				
Public water system ID#AK2262319		Population: 330		February 16, 2023
Community Water System, Ground water				
Requirement	Sample Point ID	Required Sampling Frequency	Last Sample	Next Sample
Sanitary Survey		Every 3 years	04/18/2022	2025
DISTRIBUTION - CENTRAL WATERING POINT (Facility ID:DS001)				
COLIFORM (TCR)	SPDS001TCR	1 sample(s) monthly	02/02/2023	Monthly, according to Sample Siting Plan
LEAD AND COPPER	SPDS001PC	5 sample(s) every 3 years	08/17/2020	2023
TTHM & HAA5 (DBP2)	-See below-	1 sample(s) every 3 years	10/20/2020	See stage 2 sampling detail information below
TREATMENT PLANT (Facility ID:TP001)				
NITRATE	SPTP001	1 sample(s) annually	01/04/2023	2024
ARSENIC - SINGLE	SPTP001	1 sample(s) per 3 year period	02/19/2020	Between 2023 and 2025
VOC	SPTP001	1 sample(s) per 3 year period	03/15/2021	Between 2023 and 2025
INORGANICS	SPTP001	1 sample(s) per 9 year cycle	12/03/2012	Between 2020 and 2028
TOTAL GROSS ALPHA	SPTP001	1 sample(s) per 9 year cycle	10/13/2014	Between 2017 and 2025
RADIUM 226 AND 228	SPTP001	1 sample(s) per 9 year cycle	04/21/2017	Between 2026 and 2034
WELL (Facility ID:WL001)				
SOC	SPTP001	1 sample(s) quarterly		Submit SOC waiver renewal application by Sept 30, 2024
Stage 2 Sampling Detail Information - Sample frequency listed in requirements above				
Contaminant	Sample Pt. ID	Location	Sample Count	Sample Dates
DBP2	SPDS1DBP2-1	WATERING POINT	1	October - December 2023
Operator Report				
Requirement	Location	Sampling Frequency	Last Report	
CHLORINE	Distribution System	Same time/place as routine TCR sample		Test and record daily. Send reports to ADEC on the last day of the month (before the 10th day of the following month).



Appendix B: Glossary of Facility ID and Sample Point ID

Facility ID: This identification code is associated with the facility where the sample should be collected.

RAW WATER SAMPLE

FACILITY CODE	DESCRIPTION
IN	Intake
WL	Well*
IG	Infiltration Gallery

ENTRY POINT TO THE DISTRIBUTION SYSTEM

FACILITY CODE	DESCRIPTION
CH	Combined Heater
TP	Treatment Plant
WL	Well*
PF	Pump Facility
SF	Storage Facility

DISTRIBUTION SYSTEM

FACILITY CODE	DESCRIPTION
DS	Distribution System

Monitoring Summary Example

Requirement	Sample Point ID	Required Sampling Frequency
Sanitary Survey		Every 3 years
DS OF EXAMPLE SYSTEM (Facility ID: DS001)		
	SPDS001TCR	1 sample(s) monthly
	SPDS001PC	5 sample(s) every 2 weeks
EXAMPLE SYSTEM (Facility ID: TP001)		
SOC	SPTP001	1 sample(s) quarterly

Sample Point ID: This column lists the sample point identification code associated with the sample location.

Facility ID: This identification code is associated with the facility where the sample should be collected.

*Samples collected at a well could be for source/raw water sampling or represent the entry point to the distribution system. If you are unsure about the samples for your system, consult your Drinking Water assigned EPS.

Sample Point ID: This column lists the sample point identification code associated with the sample location. The analyzing certified labs also use this when they do submit the lab results to DEC Drinking Water Program.

SAMPLE POINT ID	DESCRIPTION
SPIN	Sample Point Intake
SPEP	Sample Point Entry Point
SPTP	Sample Point Treatment Plant
SPDS	Sample Point Distribution System



Appendix C: Finding a Certified Laboratory

Public water systems can only use certified laboratories to analyze their drinking water samples. Laboratories are certified by the Alaska Department of Environmental Conservation (DEC) to conduct microbiological or chemical analyses of drinking water samples. A certified laboratory is one that has established its ability to implement a quality control program in accordance with the appropriate Federal or State regulations.

The following drinking water samples (discussed in this guidebook) need to be sent to a lab with microbiological certification:

- Long Term 2 (LT2) Enhanced Surface Water Treatment Rule (SWTR)
- Total Coliform

The following drinking water samples (discussed in this guidebook) need to be sent to a laboratory with chemical certification:

- Total Organic Carbon (TOC)
- Nitrate (NO₃⁻ only)
- Regulated Inorganics, Old and New (Arsenic, Barium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, Total Antimony, Total Beryllium, Total Thallium)
- Volatile Organic Compounds (VOC)
- Synthetic Organic Compounds (SOC)
- Lead and Copper
- Total Gross Alpha
- Radium 226 & 228
- Lead and Copper
- Total Trihalomethanes (TTHM)
- Haloacetic Acids (HAA5)

The Drinking Water Program website lists laboratories based on their approved analytes, methods, or test name certifications. The two DEC weblinks provided below allow you to confirm that the certification of a lab has not expired. QR codes are also provided for easy access via mobile device.

- Labs Certified to perform microbiological analyses:

<https://dec.alaska.gov/eh/lab/micro-lab-cert-status/>



- Labs Certified to perform chemical analyses:

<https://dec.alaska.gov/eh/lab/chem-lab-cert-status/>





Appendix D: Sample of Chain of Custody (COC) Laboratory Form

Examples of COC forms in the following pages were provided by SGS Alaska certified lab.

The water system operator is required to fill out sections framed in red. Entering the correct information in fields highlighted in yellow is critical to ensuring the lab's ability to send test results to DEC in a timely manner. These forms need to be filled out completely and accurately for each sample bottle shipped to the lab.


See next page.



SGS		Chain of Custody for Total Coliform Bacteria Samples		SGS North America, Inc. 200 West Potter Rd Anchorage, AK 99518 (907) 562-2343	
Client: _____			Info Required for ADEC Submittal- Missing or incorrect info may result in a delay. PWSID #: _____ Facility ID: _____ Sample Point: _____ Residual Cl- (mg/L): _____		
Contact: _____					
Email: _____					
Invoice to: _____		Fax: _____			
Address: _____					
City, State, Zip: _____			SGS Workorder # (Lab Use Only)		
Water System Name: _____			Analysis Requested (Select one) <input type="checkbox"/> SM9223B-Total Coli P/A (Default) <input type="checkbox"/> SM9223-Total Coli Quantitray MPN <input type="checkbox"/> holding time for PWSID		
*Sample Location: _____					
*Date/Time of Collection: _____ AM/PM			Profile # _____		
MM DD YYYY HH:MM			Sample Collector: _____		
Signature Initials			<input type="checkbox"/> Drinking water <input type="checkbox"/> Salt Water (Request SM9223 Quantitray) <input type="checkbox"/> Repeat Sample - Original Lab Sample ID: _____ <input type="checkbox"/> Special Sample		
Received by: _____			Date: _____ Time: _____		
Signature Initials MM/DD/YY HH:MM			Temperature: <input type="checkbox"/> Ambient or _____ °C Delivery: <input type="checkbox"/> Client or <input type="checkbox"/> Other (specify): _____		
Please note if the above information is missing it may result in late reporting to the state for compliance					
Sample Condition:					
<input type="checkbox"/> Sample over 30 hours old, results may be unreliable. <i>Note: Source water HPC has 8 hour holding time</i>					
<input type="checkbox"/> The sample was received frozen or with visible ice, and was rejected.					
<input type="checkbox"/> The sample was not received in a laboratory issue, pre-sterilized container, and was rejected.					
This section used for immediate notification of UNSATISFACTORY results only:					
Analysis Began: _____			<input type="checkbox"/> SM9223B Presence/Absence _____		
Analyst: _____			<input type="checkbox"/> SM9223 QuantTray _____		
Result:		Total Coliform: _____			
		E. coli / Fecal Coli: _____			
		Other Bacteria: _____			
Reported to:		By, Fax: _____		Phone: _____ Email: _____	
Reported to:		By, Fax: _____		Phone: _____ Email: _____	
Analyst (Print): _____		Date/Time: _____		Email Positive Total Coliform/E.coli to Project Manager, QC Notices, Micro, and Data Management. Notify ADEC if PWSID is present	
Signature: _____					
Initials: _____					

F083_Blank_COC_TotalColi_rev20201204





SGS North America Inc.
200 W. Potter Drive, Anchorage, AK 99518
Ph: 907-562-2343 / Fax: 907-561-5301

Lab Reference Number

Chain of Custody & Sample Receipt Form for Drinking Water Analyses

Please fill out completely. (Shaded areas are for lab use only.)

Client: _____ Phone: _____	
Contact: _____ Fax: _____	
E-mail (Required for automated reporting): _____	
Project Name: _____ ID: _____	

Info Required for ADEC Submittal - Missing or incorrect info may result in a delay

PWID #: _____	FAC ID: _____
---------------	---------------

Reports to: _____

Invoice to: _____	P.O. #: _____
Quote #: _____	

Lab No.	Sample Identification	Collection Date	Collection Time	Total Coliform (Presence/Absence - default method)	Total Coliform (MUT22 Quantitative)

Special instructions/comments: _____

Collected/Relinquished By:	Date:	Time:	Received by Lab By:	Date:	Time:
----------------------------	-------	-------	---------------------	-------	-------

Method of payment: prepaid cash check # _____ credit card

Were microbiology (Total Coliform, E. coli, LT2, etc.) samples received in proper lab-issued, pre-sterilized containers? Yes No NA
 Are samples RUSH or SHORT HOLD TIME? Yes No NA
 If yes, have you notified the lab? Yes No NA
 For preserved waters (other than VOA tests, LL-Mercury or microbiological analyses), was pH verified and compliant? Yes No NA
 Are there any problems? Yes No NA
 If yes, have you notified the Project Manager? Yes No NA

Delivery method: SGS Client Alert Courier UPS USPS FedEx AK Air ERA PenAir NAC Other

Amount paid \$ _____

Arbit # _____

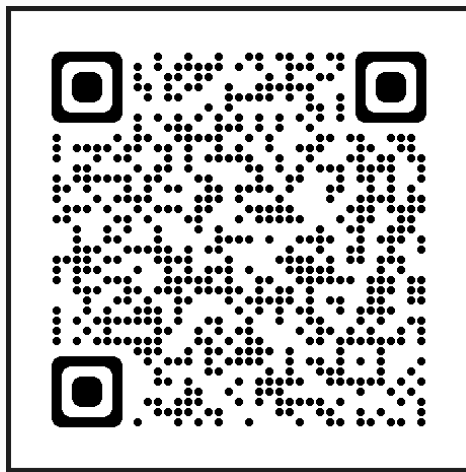


Appendix E: Sampling for Lead and Copper in Drinking Water

The following information should be provided to residents or building representatives planning to collect water samples to detect lead and copper in their drinking water supply. The water system operator should review this information with each resident or building representative prior to sample collection or when the sample bottle is provided to residents and building representatives.

This information is sourced from the Alaska Department of Environmental Conservation website and can be found at the “How To Take A Sample” weblink and the QR code below:

<https://dec.alaska.gov/eh/dw/publication/sample/>





Lead and Copper Rule Sampling Instructions

Important! If any plumbing repairs or replacements have been done in the home or building since the previous sampling event, the water system operator must be contacted prior to sampling to determine if an alternative sample site needs to be established.

Samples may be collected either by an employee, operator or the customer, **making sure that the proper sampling protocol is always followed.** Samples must be collected after the water has stood motionless in the line for at least six hours. A good way to do this is to collect samples either early in the morning or in the evening upon returning from work. Samples collected from a residence must **only** be collected from the cold-water kitchen tap or the cold-water bathroom sink tap. Nonresidential samples must be collected from interior taps that are regularly used for drinking water consumption. ***Samples collected from other taps, such as outside spigots, lab sinks and mop sinks, are not acceptable for lead and copper monitoring.***

1. Each sample must specify the **address, tap type and location, date, and time collected and document that the samples were first-draw and stood motionless in the line for at least six hours.**
2. Use a kitchen or bathroom cold-water faucet for sampling. If you have a point of use filter on your kitchen tap, collect your sample from the bathroom tap that is not attached to the point of use device if possible.
3. There must be a minimum of 6 hours during which there is no water used from the tap where the sample will be collected and any taps adjacent or close to that tap. Either early mornings or evenings upon returning home are the best sampling times to ensure that the necessary stagnant water conditions exist. Note the length of time that the tap was not used prior to taking the sample and record it on the lab paperwork.
4. Do not remove the aerator prior to sampling. Place the opened sample bottle below the faucet and open the cold water tap as you would to fill a glass of water. Fill the sample bottle to the line marked "1000-mL" or to the neck of the bottle and turn off the water.
5. Tightly cap the sample bottle and review the sample label and paperwork to ensure that all information is correct and completely filled out.

Results from this monitoring effort and information about lead will be provided to you as soon as practical but no later than 30 days after the system learns of the tap monitoring results.

LCR Sampling Instructions Updated 5/31/2016

INSTRUCTIONS FOR COLLECTING DRINKING WATER SAMPLES

- 1) WASH HANDS 2) WEAR GLOVES & EYE PROTECTION 3) FOLLOW STEP-BY-STEP INSTRUCTIONS 4) FILL OUT LAB FORMS, SHIP WITH SAMPLES
5) CALL LAB, NOTIFY. Most labs charge extra if samples are not received 8am-5pm Mon-Wed, and by 3pm on Thursdays. Never let a sample freeze.
***More details in Sampling Guidebook.**

HOLD TIME	HOLD TEMP	PRESERVATIVE		SAMPLING RAW WATER: Tap supplied by raw water before any water treatment or disinfection.		USUAL CONTAINER*
30 hours	50°F max	30 hours	50°F max	Long Term 2 (LT2) Refrigerate Temperature Blank until sampling. Check your DEC-approved plan for sampling site and frequency. Do not rinse sample bottle containing preservative. Fill bottle between 100-150 mL or as instructed by lab. Complete LT2 reporting form and lab paperwork. Pack Temperature Blank with sample. Ship ASAP! Call lab to report sample tracking information.		120mL clear plastic
28 days	39°F max	28 days	39°F max	Total Organic Carbon (TOC) in raw water Put ice packs in freezer until completely frozen or until sample collection, whichever is longer. Check your DEC-approved plan for sampling site and frequency. Do not rinse sample bottle containing preservative. Remove faucet aerators/screen. Run cold water for about 5 minutes, reduce flow to width of a pencil. Remove cap, hold cap with opening facing down and do not touch inside bottle cap/top. Slowly fill bottle to the shoulder, cap tightly. Invert bottle 5 times to mix in preservative. Place sample in ice packs immediately or within no more than 15 minutes.		40 ml vial or 125 ml glass bottle
HOLD TIME	HOLD TEMP	PRESERVATIVE		SAMPLING AT ENTRY POINT TO DISTRIBUTION: First tap after treatment but before distribution.		USUAL CONTAINER*
48 hours	42°F max	48 hours	42°F max	Nitrate (NO₃-) Check your monitoring summary for sampling site and frequency. Remove faucet aerators/screens. Run cold water for about 5 minutes, reduce flow to width of a pencil. Slowly fill bottle to shoulder, don't overflow, cap tightly to avoid leaks. Ship ASAP! Call lab to report sample tracking information.		125mL 60mL or 40mL clear plastic
See =>	Do not freeze	See =>	Do not freeze	Regulated Inorganics (Old and New) Required for systems subject to monitoring Arsenic, Barium, Cadmium, Chromium, Cyanide, Fluoride, Mercury, Nickel, Selenium, Total Antimony, Total Beryllium, or Total Thallium. Check your system's DEC-approved plan for each specific contaminant and its required sampling frequency. Do not rinse sample bottle containing preservative. Remove faucet aerators/screen. Run cold water for about 5 minutes, reduce flow to thickness of a pencil. Remove cap, hold cap with opening facing down and do not touch inside bottle cap/top. Slowly fill bottle to the shoulder, cap tightly. Invert bottle 5 times to mix in preservative. Place sample with ice for shipment. Call lab to report tracking information for shipped sample. Holding time for Mercury is 28 days ; all others is 6 months .		Material and size depends on lab
14 days	39°F max	14 days	39°F max	Volatile Organic Compounds (VOC) — Take all samples from the same location. Trip Blanks (TB) must return unopened to the lab. Check your monitoring summary for sampling frequency. While sampling, have clothes, hands, and body free of oil, grease, gasoline, diesel fuel or fumes and do not use Sharpie or markers with smells; these could affect sample lab results. Do not rinse bottles containing ascorbic acid. Do not touch inside bottle cap/top. Run cold water for about 5 minutes, reduce flow to width of a pencil. Slowly fill until 1/2 full, then add HCl, swirl sample vial to mix in preservative. Then slowly fill rest of the vial forming a mound of water at the rim, careful not to overflow. If you see air bubbles, add water avoiding spills, cap and check; repeat as needed until no bubbles.		Trip Blanks (TB), vials w/septum cap
7 days	39°F max	7 days	39°F max	Synthetic Organic Compounds (SOC) Most systems in Alaska are not susceptible to SOC contamination and are eligible for an SOC waiver. If your system has a waiver, then you do not need to sample SOCs during the waived 3-year compliance period. Check your system's Monitoring Summary to see if you are required to sample, or contact your drinking water environmental specialist for SOC monitoring waiver application assistance.		Vials or bottles
6 months	See =>	6 months	See =>	Total Gross Alpha, Radium 226 & 228 Sampling containers, volume, and frequency varies. Check your monitoring summary for frequency. Do not rinse sample bottle containing preservative. Remove faucet aerators/screens. Run cold water for about 5 minutes, reduce flow to thickness of a pencil. Do not touch inside bottle cap/top. Fill bottle without overflowing and removing preservative. Cap tightly and gently swirl to mix. Holding temperature: Gross Alpha, 50°F max; Radium 226/228, 39°F max.		2L cubitainer or jug
Analyze On-Site Immediately		Analyze On-Site Immediately		Free Chlorine Residual (Entry to Distribution) — Enter readings on Monthly Operator Report and submit to DEC per requirements. Follow your specific kit's user manual. If test kit calls for reagents, always use Free (not Total) DPD chlorine reagents that are not expired. These are instructions specific to <i>HACH Chlorine Test Kit</i> (pictured): Run cold water for 5 minutes. Collect a "blank" sample by filling 10 mL vial. Turn instrument on. Wipe vial/blank with lint-free cloth or chem wipes. Insert into instrument and cover. Press the "0" button to zero out the instrument. Take out vial, add the DPD reagent (Free powder pillow, not Total), screw cap on and swirl to mix. Wipe again with lint-free cloth or chem wipes ensuring vial is free of lint or fingerprints. If measuring Free Chlorine Residual, within 1 (one) minute of adding the reagent, insert the mixed sample into instrument. Arrange sample/vial so the white diamond is facing you. Cover by placing instrument cap over mixed sample, cap should fit snugly. Press start button. Results will appear in mg/L.		HACH Test Kit
28 days	39°F max	28 days	39°F max	Total Organic Carbon (TOC) in treated water Check your monitoring summary if required to sample for sampling frequency. Do not rinse sample bottle containing preservative. Remove faucet aerators/screen. Run cold water for about 5 minutes, reduce flow to width of a pencil. Remove cap, hold cap with opening facing down and do not touch inside bottle cap/top. Slowly fill bottle to the shoulder, cap tightly. Swirl bottle to mix in the preservative. If provided, place sample in ice packs immediately or within 15 minutes after sampling.		40 ml vial or 125 ml glass bottle
HOLD TIME	HOLD TEMP	PRESERVATIVE		SAMPLING AT DISTRIBUTION SYSTEM: Tap after all treatment. Collection site is system-specific as explained below.		USUAL CONTAINER*
30 hours	50°F max	30 hours	50°F max	Total Coliform (TC) — Check your system's RTRC Sample Siting Plan approved by DEC for exact collection site and required frequency. Do not rinse sample bottle containing preservative. Remove faucet aerators/screens, sterilize end. Run cold water for about 5 minutes, reduce flow to width of a pencil. Remove cap, hold cap with opening facing down and do not touch inside bottle cap/top. Fill bottle to the shoulder, cap tightly. Invert bottle 5 times to mix in preservative. Fill out lab forms for each sample bottle. Place sample with ice pack for shipment ASAP! Call lab to report sample tracking info. For most labs, samples should arrive to lab Monday - Thursday. Call ahead if needing weekend analysis. If result is positive, see guidebook for next steps.		120mL clear plastic
Analyze On-site Immediately		Analyze On-site Immediately		Free Chlorine Residual — Ship with TC sample after collecting at same time and site as TC. Enter readings on Monthly Operator Report for DEC. Instructions for <i>HACH Chlorine Test Kit</i> (pictured): Start the water tap until water temperature is stabilized. Collect a "blank" sample by filling the vial with 10 mL of water. Turn on the instrument. Wipe the vial/blank sample with lint-free cloth or chem wipes, insert into the instrument and cover. Press the "0" button to zero out the instrument. Take out the sample vial, add the DPD reagent (Free powder pillow, not Total) to the vial, screw on cap and swirl to mix. Wipe again with lint-free cloth or chem wipes making sure the outside of the sample bottle is free of lint or fingerprint. To measure Free chlorine residual, within one minute after adding the reagent, insert again the mixed sample into the instrument. Arrange the mixed sample vial so that the white diamond is facing you. Cover the mixed sample by placing the instrument cap over the mixed sample, the cap should fit snugly. Press the start button. Results appear in mg/L.		HACH Test Kit
See =>	Avoid Freezing	See =>	Avoid Freezing	Lead and Copper Check your DEC-approved plan for collection sites. Review instructions with home/building sampler for how and where to sample. Do not remove faucet aerators/screens. Do not rinse bottles containing preservatives. Take "first-draw" sample from indoor cold-water faucet not connected to water softener/filter that has not been in use for at least six (6) hours (minimum water stagnation). Sampler must wear gloves and eye protection. Do not overflow sample bottle. Do not touch inside bottle cap/top. After filling to the mark, cap and swirl sample bottle to mix in the preservatives. Complete lab form for each sample with time faucet was shut off, time sample was collected, and site. Holding time is 6 months if preservative is in the bottle, or 14 days if the preservative is not included.		1L+er wide-mouth
14 days	39°F max	14 days	39°F max	Total Trihalomethanes (TTHM) — Take all samples from the same approved location. Trip Blanks (TB) must return unopened to the lab. Check your DEC-approved plan for sampling site and frequency. Do not rinse bottles containing ascorbic acid. Do not touch inside bottle cap/top. Run cold water for about 5 minutes, reduce flow to width of a pencil. Slowly fill until 1/2 full, then add HCl, then slowly fill rest of the vial forming a mound of water at the rim, careful not to overflow. Swirl sample bottle to mix in the preservatives. If you see air bubbles, add water avoiding spills, cap and check; repeat as needed until no bubbles. Ship sample bottle with the lab form in a cooler with ice to keep them cold.		Trip Blanks (TB), vials w/septum cap
14 days	39°F max	14 days	39°F max	Haloacetic Acids (HAA5) — Take all samples from the same approved location. Check your DEC-approved plan for sampling site and frequency. Do not rinse vials or touch inside bottle cap/top. Run water until temperature stabilizes. Decrease flow. If using the 250 mL bottle, fill to the bottle shoulder only. Cap the bottle and swirl sample bottle to mix in the preservatives. Within 15 minutes of sampling, ship sample bottle with the lab form in a cooler with ice to keep them cold. Keep samples in the dark.		250mL brown glass



Division of Water
Capacity Development Program
Alaska Department of Environmental Conservation

Drinking Water Watch for Current Monitoring Summary



Remote Maintenance Worker Program



Capacity Development Program



Certified labs for chemical analyses



Certified labs for microbiological analyses





DEC.Capacity.Development@alaska.gov