

STANDARD OPERATING PROCEDURE

Quarterly Compliance Sampling

SOP-S-3 Quarterly Compliance Sampling

Location:	
Collecting and measuring quarterly samples in the distribution system	SOP #: SOP-S-3-Quarterly Compliance Sampling Issue Date: March 31, 2023 Date Revised: June 04, 2024 Revision #: 3 Emergency Contacts: Superintendent 902-305-3192
Prepared By:	Approved By:
CWRS	Gary West

Section 1: Purpose

The purpose of this procedure is to outline the steps for quarterly monitoring and sampling from the distribution system, as required by the interim regulations.

Section 2: Definitions / Acronyms

COC Chain of Custody
 HAA Haloacetic Acids, a family of disinfection by-products
 PPE Personal Protective Equipment
 SOP Standard Operating Procedure
 THM Total Halomethanes, a family of disinfection by-products

Section 3: Roles & Responsibilities

Everyone is responsible for making sure SOPs are followed safely. Any deviations from this procedure must be documented approved by the Operations team.

Role	Responsibilities
Operator	Collect quarterly drinking water samples at designated sites in the distribution system. Report any safety and/or training deficiencies and participate in reviews.
Service Area Supervisor	Help operators collect quarterly compliance samples if needed and make sure they are following the SOP.
Superintendent of Operations	Make sure operators are trained and are following SOPs correctly. Revise SOPs annually and make sure they are up to date.
Regulatory Compliance Officer	Regularly check WaterTrax to ensure systems are in compliance. Take corrective action if systems are non-compliant. Review weekly log sheets every quarter.

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Director of Operations Engineering and Compliance	Make sure SOPs are followed correctly. Revise SOPs annually and make sure they are up to date.
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Section 4: Required PPE

Below is a list of PPE that must be worn at all times when following this procedure:

- Steel Toed Boots/Shoes
- Nitrile Gloves
- Safety Glasses/Goggles

Section 5: Materials / Equipment

Make sure you have the following items available before starting this procedure:

- Bottles for Alkalinity, THMs, HAAs, Manganese
- Bottles for Chlorate and Bromate (if sodium hypochlorite has been stored for longer than 90 days)
- Cooler with Ice (sample storage & shipping)

Section 6: Procedure

The quarterly samples should be collected right after the weekly compliance samples (chlorine residual, turbidity, pH, microbiological) because some parameters overlap.

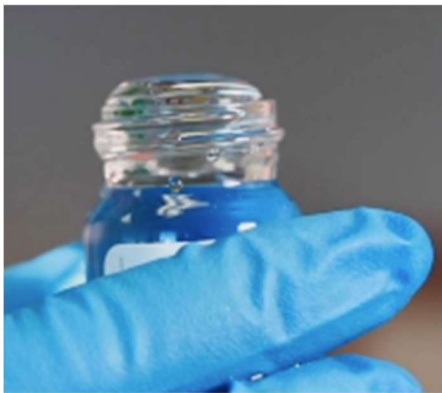
Step 1: Sample Collection

1. Before you sample
 - a. The bottles should be new, clean, sample bottle provided by the analytical lab performing the analysis.
 - b. Keep sample containers clean and free from contamination before and after collecting the sample.
 - c. Label each bottle with sampling location, date, and time.
 - d. After all weekly sampling procedures are completed, continue to flush the cold water tap for 1 minute. After flushing, reduce the flow rate to approximately the width of a pencil.
2. Collect the Manganese Sample:
 - a. Make sure the bottle is correctly labeled for **Manganese** with the location, date and time. Bottles are hard to label once they are wet!
 - b. Remove the cap and do not lay it down on any surface. Keep it in your hand with gloves on so it does not get contaminated.
 - c. Fill the sample container and leave a small amount (about an inch) of airspace at the top of the bottle. Be careful not to bump the bottle lip or opening on the tap because it can contaminate the sample.
 - d. Carefully replace the cap. Double check that the label contains the appropriate sampling information and place it in the cooler on ice.
3. Collect the THM Samples:
 - a. Two bottles will need to be filled. Make sure the bottles are labelled correctly for **THMs** with the location, date and time. Bottles are hard to label when they are wet!

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- b. Make sure you are wearing PPE (gloves and safety glasses/goggles) to protect your hands and eyes from the chemicals in the bottles.
- c. Remove the cap and do not lay it down on any surface. Keep it in your hand with gloves on so it does not get contaminated.
- d. **This bottle has preservative in it. Do not rinse or overfill the bottle.** Fill the sample container as full as possible without overfilling. Fill the lid with a small amount of water and add it drop-wise to the bottle until the water forms a dome. See picture #1 for example. Be careful not to bump the bottle lip or opening on the tap because it can contaminate the sample.
- e. Carefully replace the cap. Turn the bottle upside down to look for air bubbles. If there are no air bubbles, your sample is good. If there is an air bubble, carefully open the bottle and add more water to the bottle until the air bubble is gone. See picture #2 for example.



#1



#2

- f. Double check that the label contains the appropriate sampling information and place it in the cooler on ice. **Repeat Steps b-f for the second bottle.**
4. Collect the HAA Samples:
- a. Three bottles will need to be filled. Make sure the bottles are labelled correctly for **HAAs** with the location, date and time. Bottles are hard to label when they are wet!
 - b. Make sure you are wearing PPE (gloves and safety glasses/goggles) to protect your hands and eyes from the chemicals in the bottles.
 - c. Remove the cap and do not lay it down on any surface. Keep it in your hand with gloves on so it does not get contaminated.
 - d. **This bottle has preservative in it. Do not rinse or overfill the bottle.** Fill the sample container as full as possible without overfilling. Fill the lid with a small amount of water and add it drop-wise to the bottle until the water forms a dome. See picture #1 above for example. Be careful not to bump the bottle lip or opening on the tap because it can contaminate the sample.

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- e. Carefully replace the cap. Turn the bottle upside down to look for air bubbles. If there are no air bubbles, your sample is good. If there is an air bubble, carefully open the bottle and add more water to the bottle until the air bubble is gone. See picture #2 above for example.
 - f. Double check that the label contains the appropriate sampling information and place it in the cooler on ice. **Repeat Steps b-f for the other two bottles.**
5. Collect the Alkalinity Sample:
- a. This sample will also be used by the lab to measure conductivity. Make sure the bottles are labelled correctly for **Alkalinity** with the location, date and time. Bottles are hard to label when they are wet!
 - b. Remove the cap and do not lay it down on any surface. Keep it in your hand with gloves on so it does not get contaminated.
 - c. Fill the sample container and leave a small amount (about an inch) of airspace at the top of the bottle. Be careful not to bump the bottle lip or opening on the tap because it can contaminate the sample.
 - d. Carefully replace the cap. Double check that the label contains the appropriate sampling information and place it in the cooler on ice.

Step 2: Sample Storage and Shipping

1. Secure all the bottles in the cooler for they don't break in transit.
2. Fill out all the required sections in the COC form, put it in a zip lock bag, and place it in the cooler with the samples.
3. Seal the cooler with packing tape, fill out any necessary shipping forms and use the designated courier service to send the cooler to the laboratory. If you do not use a courier service, drive the cooler to the lab or follow whatever arrangements are in place for sample transport.

Step 3: Log Sheets

1. Remove the weekly log sheets for the last 3 months from you field kit binder.
2. Place them in an envelope, ziplock bag or something else to contain them, and notify your Service Area Supervisor that they are ready for pickup.

Document History Table

Date	Action	By	Revision #
March 31, 2023	Document Creation	CWRS	1
January 4 th , 2024	Administrative updates. Document completion/approval	JV	2
June 04, 2024	Revise to "Director of Operations Engineering and Compliance"	JV	3



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