

Source and Water Quality Parameters

SAMPLE COLLECTION PROCEDURE

Reference Methods

- Alkalinity – Reference Method SM 2320B
- Total Dissolved Solids (TDS) – Reference Method SM 2540C
- Total Organic Carbon (TOC) – Reference Method SM 5310 C
- Ca as CaCO₃, Iron – Reference Method EPA 200.7
- Lead, Copper, Manganese– Reference Method EPA 200.8 [lead and copper not compliant with LCR Tap Monitoring requirements]
- Chloride, Sulfate – Reference Method EPA 300.1
- Ammonia – Reference Method EPA 350.1

Read instructions carefully.

Samples may be rejected if ALL instructions are not followed.

- **Safety concerns:**

Caution! Sample bottles contain chemicals. Open containers slowly and carefully. Do not rinse out containers.

- View [Safety Data Sheets](https://www.health.state.mn.us/communities/environment/envlab/sdsinformation.html)
(<https://www.health.state.mn.us/communities/environment/envlab/sdsinformation.html>)

- **Sample bottle:**

- Each sampling point (location ID) will require the following set of bottles. A set of bottles includes one of each bottles listed below:
 - 1 L bottle, Unpreserved – General bottle
 - 250 mL bottle and 2.5 mL of 20% Nitric Acid (HNO₃) preservative – Metals bottle
 - 250 mL bottle with 5 mL of 10% Sulfuric Acid (H₂SO₄) – Nutrient bottle

- **Shipping:**

- Ship as soon as possible. The sample must arrive at the laboratory within 2 days of collection.

- **Sampling locations:**

- Samples will be collected at the source(s), entry point(s), and within the distribution system.

- **Prior to collection:**

- At least 48 hours before sampling, remove ice packs from the sampling kit and freeze them.

Sample collection procedure:

1. Attach the pre-printed label to the bottle. If you do not have a pre-printed label, write the following information, using a ballpoint or permanent pen, on the generic bottle label: PWSID, PWS Name, and Location ID.
2. For each sample point, complete steps a through i.
 - a. Remove any attachments from the sample tap.
 - b. Turn on the cold water tap and run for 4 to 5 minutes or until the water temperature has stabilized, whichever is longer.
 - i. If there is only one faucet handle, make sure it is in the cold water position.
 - c. Reduce the flow of the water so the stream is steady and the width of a pencil.
 - d. Remove bottle cap and hold in hand. Do not touch the underside of the cap or the inside of the bottle.
 - e. Fill bottle to the shoulder. **DO NOT** overfill the container.
 - f. Screw the cap back on the bottle. Make sure the cap is on securely. Turn the bottle upside down to make sure the water does not leak.
 - g. Repeat steps a through f for the remaining bottles in the set.
 - h. Replace any attachments that were removed from the faucet or sample tap.
 - i. **Note:** water quality parameters testing requires a field pH. Write the pH value in the sampler comments on the Chain-of-Custody for each sample or e-mail them to the noncommunity plan review engineer or community lead and copper compliance engineer. See pH (field) for collection procedures.
3. Upon completion of sampling, immediately (within 15 minutes) place sample in cooler with frozen cooling material.

Complete Chain-of-Custody form using a ballpoint or permanent pen:

1. Name of the sample collector and phone number.
2. Date and Time collected (include a.m. or p.m.).
3. Put your signature on the “Relinquished By” line, including date and time. The date and time are when the sample is put in the return mailer and sealed. If samples pass hands prior to packaging, both parties must sign, date, and time. The first party would put down the date and time of the transfer, and the second party would put down the date and time the sample is packaged.

Shipping and handling:

1. All sample containers must have cooling material present without evidence of sample freezing.
2. Sample temperature requirements depend on when the lab receives the sample:

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- a. Received 0 - 24 hours after collection: frozen or partially frozen (i.e. containing some solids) cooling material must be present. The temperature of the cooling material must be less than the temperature of the sample(s).
 - b. Received more than 24 hours after collection: frozen or partially frozen cooling material must be present. The temperature of the samples must be between 0.0 and 6.0° C.
3. Dropping off samples in person:
- a. Frozen or partially frozen cooling material must be present. Laboratory staff must confirm the state of the cooling material. The temperature of the cooling material must be less than the temperature of the sample(s). Temperature requirements listed above must be followed.
 - b. Physically hand cooler/container containing samples and cooling material to laboratory sample receiving staff. Do not leave sample containers at the sample dock unattended.
4. Shipping samples:
- a. Make sure the completed Chain-of-Custody is in the shipping container.
 - b. Add enough fresh, frozen cooling material to the mailing container to maintain appropriate sample temperature as indicated above, with no evidence of freezing.
 - c. Ship to the Public Health Laboratory using the applicable address. Because of the temperature requirement, it is recommended to ship using **guaranteed** overnight shipping.

Courier Service (Spee-Dee, UPS, FedEx, etc.)

Minnesota Department of Health
Public Health Laboratory
Environmental Sample Receiving
601 Robert Street North
Saint Paul, MN 55155-2531

U.S. Postal Service – 1st Class

Minnesota Department of Health
Public Health Laboratory
Environmental Sample Receiving
P.O. Box 64899
Saint Paul, MN 55164-0899

If you have questions, call 651-201-4700, or email health.drinkingwater@state.mn.us.

Minnesota Department of Health
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