County of Santa Cruz

Health Services Agency - Environmental Health

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Bacteriological Sample Collection Guide: Drinking Water

This guide provides step-by-step instructions for collecting bacteriological samples from drinking water (also known as "potable" or "domestic") systems. Following these steps helps prevent contamination of the sample and provides a more accurate reflection of your system's water quality.

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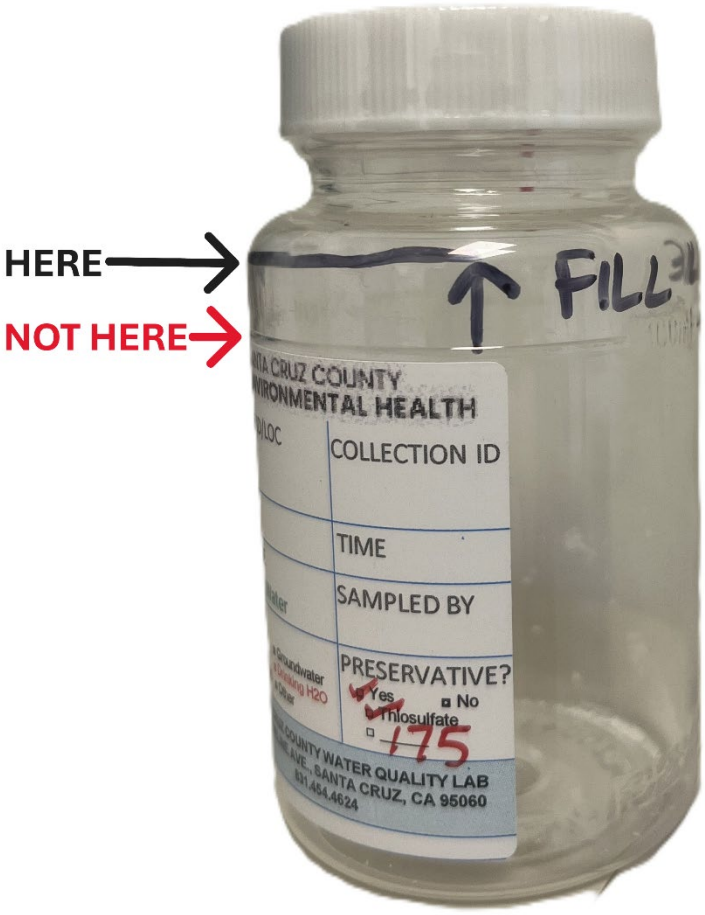
1. Prepare a Sample Location

- **Choose the Right Faucet:**
  - Use a **cold-water tap** without a screen, aerator, hose, swiveling head or filter.
  - If the tap does have a screen or aerator, **remove it** before sampling.
  - Avoid outdoor taps unless they are **clean and protected** from insects, dust, and weather.
  - Do **not** use taps that leak around the valve stem.
  - Make sure the faucet is **high enough** to fit the bottle underneath without touching.
- **If the Tap is Dirty,** follow these steps:
  1. Scrub the inside and outside of the tap with a **plastic-bristled brush**.
  2. Flush the tap for **2–5 minutes**, then turn it off.
  3. Swab the tap with **Isopropyl Alcohol** and wait 1–2 minutes.
  4. Flush the tap for **1 additional minute** to remove disinfectant.
  5. Proceed to sample collection.

2. Collect the Sample

1. **Flush the Tap:** Turn on the water and let it run for **2–5 minutes** to clear out any bacteria.
2. **Adjust the Flow:** Reduce the water to a **gentle, steady stream**—no splashing or turbulence.
3. **Handle the Bottle Carefully:**
   - **Do not rinse the bottle**. It may contain a powder (sodium thiosulfate) that neutralizes chlorine.
   - Remove the cap and hold it facing down. Do not touch the inside of the cap or bottle.
4. **Collect the Sample:**
   - Place the bottle under the running water.
   - Without letting the water splash, **fill the bottle to the shoulder.**
5. **Seal and Label:**
   - Quickly put the cap back on.
   - **Label the bottle clearly** with the required information.



3. Deliver the Sample

- **Keep the Sample Cool:**
  - If you can't deliver it within 1 hour, place it in a **cooler with cold packs**.
  - Do **not** let the bottle sit in ice or melted ice water. DO NOT let sample freeze.
- **Deliver Promptly:** Make sure the sample gets to the **lab within 24 hours** of collection. Ideally, samples will be delivered within 6 hours of collection.
- **Complete the Chain of Custody (COC):** The COC is a legal document that describes who collected a sample, where and when it was collected, and what analyses were requested. The COC must be completed **in pen**.
- **Delivery of the Sample:** The sample must be given directly to lab personnel who will sign the COC showing when they have taken custody of the sample.