

# Mandatory Lead in Water Testing



## Training Module 3 - Water Sampling

August 2023

## Table of Contents

<b>Selecting a Testing Lab .....</b>	<b>3</b>
<b>Prior to Testing .....</b>	<b>3</b>
<b>Prior to Taking Samples .....</b>	<b>4</b>
<b>How to Test - Draw Samples .....</b>	<b>4</b>
<b>How to Test - Flush Samples .....</b>	<b>5</b>
<b>Draw Samples vs Flush Samples .....</b>	<b>5</b>
<b>Draw samples .....</b>	<b>5</b>
<b>Flush samples.....</b>	<b>5</b>
<b>Shipping Lead in Water Samples .....</b>	<b>6</b>



## Selecting a Testing Lab

Several factors play into selecting a testing lab for your school. A lab you have previously used may or may not be your best choice. Things to consider are:

- **You must use a lab that is ORELAP certified to test for lead in drinking water.** Certifications do require periodic renewal, so you should check to be sure the lab you select is still certified.
  - A list can be found on the [OHA website](#). Note that some testing labs have multiple locations but may not be certified to test for lead in water at all locations. In this event, they normally receive samples and send them on to their lab which is certified to complete testing.
  - There is also an [interactive map](#) on the OHA website that can help find lab locations in your area. To use the map, click on the locations to see information about ORELAP labs in your area. A box will appear providing the lab name, contact information, and a list of materials for which they are certified to test. **The individual lab in the list MUST show a “Yes” next to LEAD to indicate the lab is ORELAP certified to test for lead in drinking water.**
  - While ORELAP and OHA strive to keep these lists current, it is important to ask the lab if they are currently ORELAP certified. If testing is done by labs that are not ORELAP certified, it will have to be repeated and the costs are not reimbursable.
- To make transferring final results data quicker, ask the labs to also send the data as Comma Separated Value (CSV) files.
- It pays to shop around. Pricing varies from one lab to the next, and some will do copper testing at no additional charge.
- There are some labs that do not have the proper accreditation themselves, but will send your samples on to another lab that does. Be aware that they typically charge a higher price per sample for this service. It may be better to select a different lab, even if you must pay to ship samples to the lab. Reimbursement is available for shipping costs. Save your receipts.
- Controlling lab costs as much as practical helps be good stewards of the state’s resources.

## Prior to Testing

Successful testing requires an organized approach. Before beginning testing, assign **Fixture ID Numbers (FINs)** to each fixture using the protocol described [Training Module 1 – Fixture and Sample ID Numbers](#). Your district will need to prepare a Master Fixture ID spreadsheet for the purpose of tracking fixtures. It must include, at **minimum**:

- Specific building name and [ODE Building ID Number \(BIN\)](#).
- A unique description of each fixture location, so that someone coming into your school with no inside knowledge of your building could find that specific fixture.
- The Fixture ID Number (FIN) assigned using the ODE numbering protocol.

- If you have previously had your own fixture numbering system, add a column to include this number as well so that previous records can be cross referenced with new records.

It is recommended that you review the [Reimbursement Form Template](#) **prior** to beginning testing. This will help ensure that you know all the information required to complete the template.

## Prior to Taking Samples

Prior to taking samples, the following prerequisites **must** be met:

- Samples must be drawn on a day following a day when class is in session in the building. This will preclude you from testing during summer, winter, and spring breaks. The exception would be testing on the first day after the close of school for a break.
- Samples must be drawn in the morning before any water in the building is used, after plumbing has been idle for 8 to 18 hours.
- Flushing of systems prior to testing is **NOT** allowed.

## How to Test - Draw Samples

The collection process itself is straight forward. You should plan your collection of samples in an organized manner to avoid missing fixtures. All samples must be collected in 250 milliliter bottles. These are generally supplied by the testing lab, but can also be purchased online.

1. Fill out the label on the bottle (Client, Date/Time Collected, Sample ID Number assigned per [ODE protocol](#), etc.). You may want to fill out the labels ahead of time. Consider printing them out with a printer to make them easier to read. If you do so, be sure the ink is waterproof and that you match the correct label to each sample location.
2. **Do not turn on tap yet. Some labs may put acid preservative in the bottles**, so look at the label to see if it notes that acid is present. If the bottles contain acid, use safety glasses and point the bottle away from your face when filling.
3. Remove the cap from the sample bottle and set it aside.
4. Hold the sample bottle under the tap.
5. NOW turn on the cold tap, slowly (to avoid splattering water or overfilling the bottle).
6. Fill the sample bottle to the bottom of the neck (labs need space in the bottle to shake and mix the sample).
7. Place the cap back on the sample bottle.
8. You are done sampling this fixture. Move on to the next fixture.

What **NOT** to Do:

- **Do not rinse the bottle** before collecting a sample.
- Do not partially fill or overfill the bottle. **Fill to the bottom of the neck.**

**A couple of important notes:**

- Lead samples do NOT need to be iced.
- Labs will acidify/preserve the samples at the lab.

## How to Test - Flush Samples

**Flush samples are to be used as a diagnostic tool only.** It is not necessary to take flush samples unless the draw sample indicates high levels of lead. Flush samples are taken the same way as draw samples (including the 8-18 hour wait time), except they are taken **after the water has run** for 30 seconds.

A flush sample below the action level following a draw sample above the action level is **not** an indication that lead levels are acceptable. **Remediation must still take place** and the fixture cannot be returned to service until remediation has been completed and the fixture has passed a follow-up draw test.

## Draw Samples vs Flush Samples

All testing should start with draw samples.

### Draw samples

- Taken **before any** water is run from the tap. By collecting the first water out of the tap, you are testing the water that has been sitting overnight in the fixture itself. Draw samples should detect elevated levels of lead that are caused by anything in the system, up to and including the fixture.

### Flush samples

- It is not necessary to take Flush samples unless the draw sample indicates high levels of lead.
- Flush samples are taken in the identical manner as draw samples, **except** that they are taken **after the water has run for 30 seconds**. Flush samples are intended to detect elevated levels of lead caused by materials in the system before the water reaches the fixture.
- **Flush samples are to be used as a diagnostic tool only!** A flush sample below the action level following a draw sample above the action level is **not** an indication that lead levels are acceptable. Remediation must still take place and the fixture cannot be returned to service until remediation has been completed and the fixture has passed a follow-up draw test.
- If the draw sample is high, but the flush sample is acceptable, then the cause is likely the fixture.
- If the draw sample and flush sample test the same, then the problem is likely somewhere in the system besides the fixture.

Most commonly, elevated levels of lead can be corrected by replacing the fixture and the shut off valves beneath the fixture.

## Shipping Lead in Water Samples

Shipping samples may be the most economical way to get water samples to the lab. Shipping lead in water samples is much easier than well samples. For shipping lead in water samples:

- They do **not** need to be iced.
- They do **not** need to be rushed.
- Lead water samples do not expire.
- Shipping can take less personnel time than driving to a lab.