REGIONAL SCHOOL UNIT 40
Friendship • Union • Waldoboro • Warren • Washington
1070 Heald Highway, PO Box 701, Union, Maine 04862
207.785.2277
Steve Nolan, Superintendent
Christina Wotton, Assistant Superintendent
Karen Pike, Business Manager
Karen Brackett, Director of Special Services

May 31, 2022

Dear Students, Families and Staff,

In accordance with M.R.S. §2604-B (An Act To Strengthen Testing for Lead in School Drinking Water), RSU 40 took initial water samples on April 20, 2022, which were submitted to A&L Laboratories, Auburn ME for analysis. This letter is intended to share the findings of those tests and our actions in response.

I have attached 2 documents:

a. Public Notification & Laboratory Report for each school
b. Mitigation & Remediation Guide

This legislation lowers the Environmental Protection Agency (EPA) lead level threshold from 15 parts per billion (ppb) to 4ppb for Maine schools. Additionally, this initial test was taken after 24 hours "rest" period during which no water was run through the fixtures. This may cause the lead levels to be artificially high.

We will conduct secondary testing on those fixtures with elevated lead levels in an attempt to both verify results and to isolate the cause of the elevated levels. This test will include a 30 seconds of water running before a sample is taken. I anticipate those results on/about June 30, 2022. Based on those secondary findings, we will develop a plan for mitigation or remediation as required.

I will keep you updated as we work through this process.

Please visit www.leadtestingmaineschools.com to obtain further information. If you have questions, feel free to contact me at (207) 785-2277 x237 or brian_race@msad40.org.

Sincerely,

Brian H. Race
Director of Facilities

Public Notice: School Lead Water Sample Results

Information concerning the lead level results for drinking water samples taken at

UnionElementarySchool

name of school

Maine law requires schools to test all drinking water faucets that could be used for drinking or cooking purposes for the presence of lead. This law further requires that parents and staff are made aware of all of the sample results.

During the period of 4/20/2022 *begin date* **to** 4/20/2022 *end date*

Water samples were collected from 41 *# locations* **water fixtures.**

Any sites producing elevated levels of lead (exceeding 4 parts per billion, or ppb), and therefore the faucets of most concern, are listed in the table on the following page(s).

Results for all drinking water outlets tested can be viewed here:

SeeAttached

Enter website address or physical location

Statewide test results for Maine schools can also be found the on Maine DWP website at: www.medwp.com/schools.html

How does lead get into the water? When lead is present in water, it typically leaches, or dissolves, into water flowing through plumbing and fixtures *inside* a building from sources such as solder, pipes, or the faucets themselves. The school's well water or water provided by your local water district are unlikely sources of lead.

What are the Health Effects of exposure to lead in drinking water? Infants and children who drink water containing high levels of lead can experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink water containing excess levels of lead over many years could develop kidney problems or high blood pressure.

What level of lead is safe? No level of lead is safe. Because of the potential serious health risks, both the Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control and Prevention (CDC) agree that there is no known safe level of lead in a child's blood.

Please be aware that this sampling is done under conditions that are optimal for identifying lead in water. By having the water sit unused for many hours, lead that might be leaching from pipes or fittings is more easily discovered. However, *these levels are likely not the level of lead present in the drinking water throughout the school day.*

What can I do? Here are a few steps you can take to reduce the risk of your child being exposed to lead through school drinking water:

- Provide your child with bottled water or water from your home to reduce their usage of school drinking water outlets. Be sure to sample your home water for lead, too.
- Remind your child to let the water run for 30 seconds before drinking or filling a water bottle at school, which will lower any possible lead concentration.
- Consult your doctor if you have any specific health concerns.

School Fixtures with Elevated Lead Results (exceeding 4 parts per billion)

Additional tables may be attached if your school has more than 20 collection sites with elevated lead levels.

	Collection Date	Collection Site	Concentration (ppb)
1		SEEATTACHED	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

What is Being Done:

To correct the problem(s), we have taken these actions:

RSU40willconductfollowuptestinginaccordancewithstateguidelinestoisolatetheissueateachfixtureshowingelevatedleadlevels.Untilthoseresultsarereturned,wewilldis-continueuseofthosefixturesasasourcefordrinkingwater.

Future plans for the reduction of high lead levels in our drinking water include:

Dependingontheresultsoffollow-uptesting,wewillevaluatethebestmitigationand/orremediationplanforeachfixture.

These actions are expected to be completed on: To Be Determined *(Date)*

Information about Lead in Drinking Water for Students, Staff, and Parents

Health Effects of Lead

If too much lead enters your body from drinking water or other sources, serious health problems can occur, including damage to the brain and kidneys and interference with the production of oxygen-carrying red blood cells.

The greatest risk of lead exposure is to infants, young children, and pregnant women: During pregnancy, the fetus receives lead from the mother, which may affect brain development. In children, the continuing effects of lead on the brain have been linked to lowered IQ. Furthermore, lead is stored in the bones and can be released later in life, so, adults who were exposed to high levels of lead earlier in life may still encounter kidney problems and high blood pressure.

Sources of Lead

Lead can be found in many places; knowing the sources of lead can help limit your contact with it. Although most of the reported cases of lead poisoning in Maine have been a result of lead paint dust, exposure can also occur through drinking and cooking with water that has lead, as it can dissolve into water from solder or brass faucets, fittings, and valves. Exposure to lead can also come from jobs and hobbies that utilize materials containing lead, as well as from things you buy such as toys and antiques.

How Lead Got into Your Water

The most likely source of lead in your water is leaching from lead solder on your pipes or out of brass plumbing materials found in faucets, fittings, and valves.

Steps You Can Take to Protect Yourself from Lead in Drinking Water

- Run the water for at least 30 seconds or until it becomes noticeably colder before using it for drinking or cooking. The longer water sits in piping, the greater the chance that lead might leach in.
- Use cold water for drinking and cooking as well as for preparing baby formula. Hot water dissolves lead more quickly than cold water.
- Clean your faucet aerator (screen) regularly.
- Consider using bottled water or a water filter for drinking and cooking.

* Remember: Boiling the water does *not* reduce lead levels.

Find Out More

For more information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's website at http://www.epa.gov/lead, or contact the Maine Childhood Lead Poisoning Prevention Program (866-292-3474) or your health care provider. Your doctor can answer questions about having your child tested for lead.

A & L LABORATORY
A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC.
155 Center Street, Building C, Auburn, Maine 04210
Phone (207) 784-5354 website www.allaboratory.com

Laboratory Report

Union Elementary
1070 Heald Highway
Union, ME 04862

Date Printed:	**05/23/2022**
Work Order #:	**2204-03088**
Client Job #:	**767**
Date Received:	**04/20/2022**
Sample collected in:	**Maine**

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of the analyzing laboratory's Quality Assurance Plan, Standard Operating Procedures and State Accreditation. This certificate shall not be reproduced, except in full, without the written approval of the analyzing laboratory. The results presented in this report relate to the samples listed on the following pages in the condition in which they were received. Accreditation for each analyte is identified by the * symbol following the analyte name. Location of our analyzing laboratory is identified by the code in the Analyst Column.

A & L Laboratory:
Identified by ME in Analyst Column
155 Center Street, Auburn, Maine 04210
www.allaboratory.com

Granite State Analytical Services LLC:
Identified by NH in Analyst Column
22 Manchester Road, Derry, NH 03038
www.granitestateanalytical.com

ANALYSIS RELATED NOTES:

- RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.
- A & L Laboratory / Granite State Analytical Services LLC / Nashoba Analytical LLC. accreditation lists can be found on our websites listed above.
- Subcontracted samples will be identified by the Accreditation number of the subcontract laboratory in the analyst field for each analyte and the appropriate laboratory will be listed here. None
- Data Qualifiers (DQ) Flags provide additional information in regards to the receipt, analysis or quality control of a sample. These are indicated under the DQ Flags Column on your report and listed here if necessary: Data Qualifier (DQ) Flags: None

SAMPLE STATE SPECIFIC NOTES:

- The thermal preservation requirement of 4ºC for nitrate & nitrite has been waived by the Maine CDC for all samples submitted to the Drinking Water Program.

Additional Narrative or Comments: None

We appreciate the opportunity to provide you with laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be happy to assist you.

Rebecca L. Labranche
Laboratory Director

A & L LABORATORY

A DIVISION OF GRANITE STATE ANALYTICAL SERVICES, LLC.

155 Center Street, Building C, Auburn, Maine 04210

Phone (207) 784-5354 website www.allaboratory.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/23/2022
CLIENT NAME: Union Elementary

CLIENT ADDRESS: 1070 Heald Highway
Union, ME 04862

METHOD: **EPA 200.8**
EPA ACTION LEVEL: **15 ppb**
MAINE GUIDELINE: **4 ppb**
REPORTING LIMIT: **1 ppb**

Legend	
Lead Above 4 ppb	⚠
Lead Above 15 ppb	⊗

DATE AND TIME RECEIVED: 04/20/2022 10:40AM
ANALYSIS PACKAGE: Maine Schools-Lead
RECEIPT TEMPERATURE: 21° CELSIUS
CLIENT JOB #: 767

Sample ID #	Location	Sample Type	Outlet Type	Date - Time Water Sampled	Result	Test Units	Pass /Fail	DQ Flag	Analyst	Date - Time Analyzed
2204-03088-001	Kitchen Handwash Sink	I	OT	04/19/2022 06:45AM	6.2	ppb	⚠		DG-NH	05/21/2022 06:25PM
2204-03088-002	Kitchen 3 Bay Sink	I	KF	04/19/2022 06:50AM	2.7	ppb			DG-NH	05/21/2022 06:46PM
2204-03088-003	#151 Kindergarten Sink	I	OT	04/19/2022 07:00AM	2.3	ppb			DG-NH	05/21/2022 06:50PM
2204-03088-004	#151 Kindergarten Bubbler	I	DWF	04/19/2022 07:01AM	33.6	ppb	⊗		DG-NH	05/21/2022 06:54PM
2204-03088-005	#151 Kindergarten Bathroom Sink	I	OT	04/19/2022 07:00AM	<1	ppb			DG-NH	05/21/2022 06:57PM
2204-03088-006	Staff Bathroom by Kitchen	I	OT	04/19/2022 08:10AM	3.1	ppb			DG-NH	05/21/2022 07:01PM
2204-03088-007	Bottle filling station, Hallway in Lobby	I	DWF	04/19/2022 06:55AM	<1	ppb			DG-NH	05/21/2022 07:04PM
2204-03088-008	Bottle filling station, Hallway in Lobby, bubbler	I	DWF	04/19/2022 06:56AM	2.1	ppb			DG-NH	05/21/2022 07:08PM
2204-03088-009	Bathroom 1, hallway across from office, sink	I	OT	04/19/2022 07:05AM	<1	ppb			DG-NH	05/21/2022 07:12PM
2204-03088-010	Bathroom 2, hallway across from office, sink	I	OT	04/19/2022 07:06AM	<1	ppb			DG-NH	05/21/2022 07:15PM
2204-03088-011	Clinic room, sink	I	OT	04/19/2022 07:07AM	1.5	ppb			DG-NH	05/21/2022 07:19PM
2204-03088-012	Clinic bathroom, sink	I	OT	04/19/2022 07:08AM	<1	ppb			DG-NH	05/21/2022 07:37PM
2204-03088-013	#142 Office, Sink	I	OT	04/19/2022 07:10AM	29.3	ppb	⊗		DG-NH	05/21/2022 07:40PM
2204-03088-014	#142 Offfice, bubbler	I	DWF	04/19/2022 07:15AM	39.0	ppb	⊗		DG-NH	05/21/2022 07:44PM
2204-03088-015	#133 Pre K, Sink	I	OT	04/19/2022 07:20AM	1.5	ppb			DG-NH	05/21/2022 07:48PM
2204-03088-016	#133 Pre K, Bubbler	I	DWF	04/19/2022 07:21AM	51.5	ppb	⊗		DG-NH	05/20/2022 09:34PM
2204-03088-017	#131 1st Grade, sink	I	OT	04/19/2022 07:25AM	3.7	ppb			DG-NH	05/21/2022 07:51PM
2204-03088-018	#131 1st Grade, bubbler	I	DWF	04/19/2022 07:25AM	5.4	ppb	⚠		DG-NH	05/21/2022 07:55PM
2204-03088-019	#127 3rd Grade, bubbler	I	DWF	04/19/2022 07:31AM	3.9	ppb			DG-NH	05/21/2022 07:58PM
2204-03088-020	#127 3rd Grade, sink	I	OT	04/19/2022 07:31AM	<1	ppb			DG-NH	05/21/2022 08:02PM
2204-03088-021	Teacher lounge, sink	I	OT	04/19/2022 07:30AM	1.3	ppb			DG-NH	05/21/2022 08:17PM
2204-03088-022	Boy's bathroom hallway, 2 sinks	I	OT	04/19/2022 07:35AM	<1	ppb			DG-NH	05/21/2022 08:20PM

Rebecca L. Labranche
Laboratory Director

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CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/23/2022
CLIENT NAME: Union Elementary

CLIENT ADDRESS: 1070 Heald Highway
Union, ME 04862

Legend	
Lead Above 4 ppb	⚠
Lead Above 15 ppb	⊗

METHOD: **EPA 200.8**
EPA ACTION LEVEL: **15 ppb**
MAINE GUIDELINE: **4 ppb**
REPORTING LIMIT: **1 ppb**

DATE AND TIME RECEIVED: 04/20/2022 10:40AM
ANALYSIS PACKAGE: Maine Schools-Lead
RECEIPT TEMPERATURE: 21° CELSIUS
CLIENT JOB #: 767

Sample ID #	Location	Sample Type	Outlet Type	Date - Time Water Sampled	Result	Test Units	Pass /Fail	DQ Flag	Analyst	Date - Time Analyzed
2204-03088-023	Girls bathroom hallway, 2 sinks	I	OT	04/19/2022 07:36AM	1.1	ppb			DG-NH	05/21/2022 08:31PM
2204-03088-024	#126 6th grade, sink	I	OT	04/19/2022 07:40AM	3.7	ppb			DG-NH	05/21/2022 08:35PM
2204-03088-025	#126 6th Grade, bubbler	I	DWF	04/19/2022 07:40AM	6.7	ppb	⚠		DG-NH	05/21/2022 08:38PM
2204-03088-026	#125 2nd grade, sink	I	OT	04/19/2022 07:45AM	3.4	ppb			DG-NH	05/21/2022 08:42PM
2204-03088-027	#125 2nd grade, bubbler	I	DWF	04/19/2022 07:45AM	<1	ppb			DG-NH	05/21/2022 08:45PM
2204-03088-028	#107 Resource room, sink	I	OT	04/19/2022 07:52AM	2.4	ppb			DG-NH	05/21/2022 08:49PM
2204-03088-029	#107 Resource room, bubbler	I	DWF	04/19/2022 07:53AM	<1	ppb			DG-NH	05/21/2022 09:00PM
2204-03088-030	Library, 2 sinks	I	OT	04/19/2022 07:55AM	16.3	ppb	⊗		DG-NH	05/20/2022 09:37PM
2204-03088-031	#103 Art, sink	I	OT	04/19/2022 07:45AM	2.4	ppb			DG-NH	05/21/2022 09:03PM
2204-03088-032	#103 Art, bubbler	I	DWF	04/19/2022 07:50AM	1.8	ppb			DG-NH	05/21/2022 09:07PM
2204-03088-033	Girls bathroom, by resource room, 2 sinks	I	OT	04/19/2022 07:47AM	<1	ppb			DG-NH	05/21/2022 09:11PM
2204-03088-034	Boys bathroom, across from resource rm, 2 sinks	I	OT	04/19/2022 07:49AM	<1	ppb			DG-NH	05/21/2022 09:22PM
2204-03088-035	#121 4th grade, sink	I	OT	04/19/2022 08:03AM	3.3	ppb			DG-NH	05/21/2022 09:25PM
2204-03088-036	#121 4th grade, bubbler	I	DWF	04/19/2022 08:03AM	5.0	ppb	⚠		DG-NH	05/21/2022 09:29PM
2204-03088-037	#120 5th grade, sink	I	OT	04/19/2022 08:08AM	14.8	ppb	⚠		DG-NH	05/21/2022 09:32PM
2204-03088-038	#120 5th grade, bubbler	I	DWF	04/19/2022 08:08AM	4.2	ppb	⚠		DG-NH	05/21/2022 09:47PM
2204-03088-039	#140 Custodian closet sink	I	OT	04/19/2022 07:09AM	<1	ppb			DG-NH	05/21/2022 09:51PM
2204-03088-040	Gym locker boys/storage, 2 sinks	I	OT	04/19/2022 06:42AM	14.0	ppb	⚠		DG-NH	05/21/2022 09:54PM
2204-03088-041	Gym locker girls /storage, 2 sinks	I	OT	04/19/2022 06:44AM	1.4	ppb			DG-NH	05/21/2022 09:58PM

Rebecca L. Labranche
Laboratory Director

Mitigation & Remediation Guide
for Lead in School Drinking Water

State of Maine
Department of Health and
Human Services

Maine CDC
Drinking Water Program

Contents

About This Guide

This guide was developed by the Maine CDC Drinking Water Program (DWP) to assist your school in understanding your lead water testing results and guide you through mitigation and remediation processes to help reduce your water's lead levels.

Lead mitigation and remediation in schools is voluntary. However, schools are required to report all planned and completed mitigation /remediation actions to the Drinking Water Program.

As you work through this guide, remember not all mitigation/remediation actions are appropriate for all schools, locations, or lead levels. While there is no safe level of lead, fixtures with lead levels over 4ppb are recommended to be removed from service until mitigation/remediation takes place. Lead levels above 15 ppb are considered significantly elevated and may require more aggressive treatment actions. If your school has fixtures for which lead sample results exceed 15 ppb, the DWP recommends seeking outside consultation to assist with mitigation/remediation. While the DWP does not endorse individual consultants, a list of local treatment companies can be found on the DWP website.

Understanding Your Results

When you receive your water sample test results from the lab, the results will be reported in parts per billion (ppb).

As you review your sample results, consider not only the lead levels, but also the vulnerability of your students and the likelihood of exposure. Remember, younger children are more vulnerable to lead and are more likely to be exposed by consuming water from bubblers or bottle fill stations. Also keep in mind the longer water sits undisturbed within your plumbing (such as after school vacations), the higher the potential for lead to dissolve into the water.

0 ppb — Fixtures can be used as normal

4 ppb — Mitigation/remediation **recommended**

>15 ppb — Mitigation/remediation ***highly recommended***

How Lead Gets in Water

Lead rarely occurs in water naturally; most often, lead found in drinking water originates from within your building's plumbing – from three locations in particular: the supply line, the internal piping, and individual fixtures like faucets. When plumbing is unused (as it tends to be overnight, on weekends, or extended breaks) lead can slowly dissolve from the plumbing into the water. The longer the water sits undisturbed, the greater the potential for elevated lead levels.

The Fixture (a.k.a. faucet)

Fixtures are water delivery outlets. They can include, but are not limited to, kitchen and bathroom faucets, drinking water fountains and bubblers, bottle fill stations, brass spigots, ice machines, and hot water kettles. Remember even new fixtures, piping, or other components made of non-metal material might not be "lead free." Products manufactured outside the U.S. (as are some online purchases) may still contain un-acceptable amounts of lead.

To determine if any of your fixtures are lead-free, use the EPA's guide for identifying lead-free fixtures

Internal Piping

The piping inside your building includes many components that could contain lead. In some instances, the pipes themselves are made of lead. Other sources include lead solder (historically used to join copper pipes), joints, fittings, and other pipe material such as galvanized steel.

Supply line

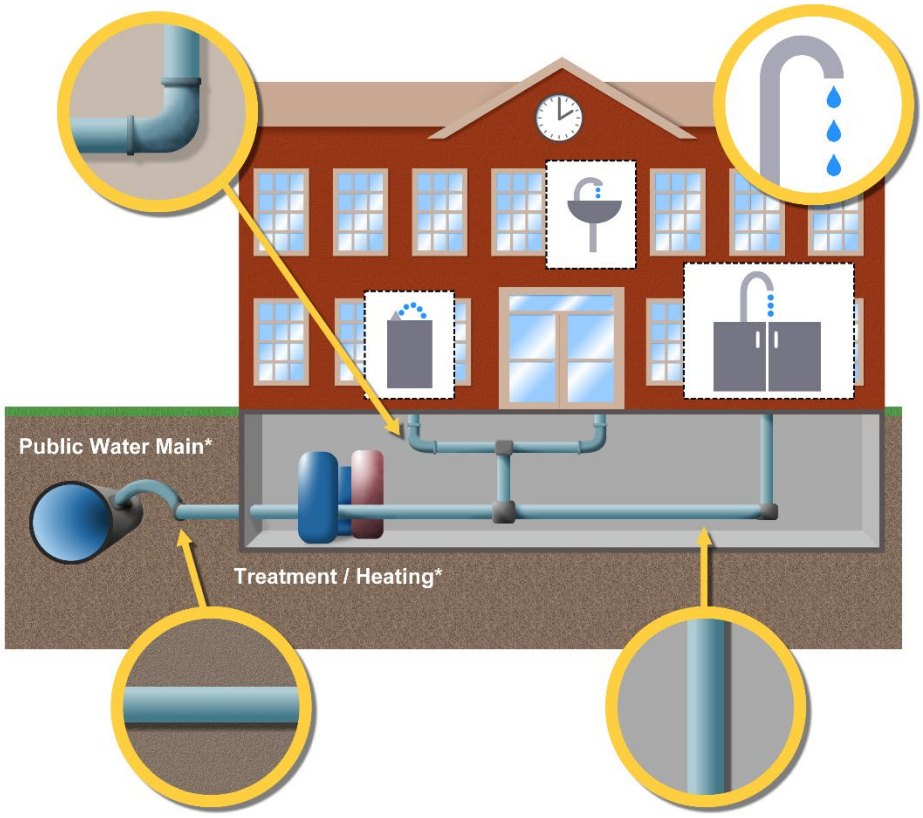
A supply line is the pipe that joins the building's internal plumbing to either a well or to the public water supply. Even non-lead supply lines can contain lead particles or lead components. It is not known how many privately-owned supply lines are made of lead or could contain lead, and so all should initially be considered suspect. Furthermore, private wells might also contain lead in the "packer" element that is used to help seal the well above the well screen; this is more common in wells drilled more than 20 years ago. Some models of older submersible well pumps also contain leaded-brass components.

Pipes with Lead Solder

Solder made or installed before 1986 contained high levels of lead.

Faucets and Drinking Fountains

Fixtures located inside your school might contain lead.



Lead Service Lines and Goosenecks

Lead service lines can contaminate drinking water.

Galvanized Pipes

Lead particles can attach to galvanized metal and eventually enter the water.

***Regardless of whether your school's drinking water is supplied by a municipal water system or its own well, the water will enter the building through a service line(s). Once inside the building, water may undergo treatment for impurities and heating before being distributed to various fixtures in the building via a network of pipes.**

This illustration is a simplified view of an internal water system served by a municipal supplier. Your school's source, system components, and fixtures may be different.

Determining the Source of Lead

If any of your initial samples come back with elevated lead levels, your next step is to identify the exact location(s) where lead is entering the water. To that end, we recommend a course of follow-up samples: a first-draw confirmation sample and a 30-second flush sample for each fixture with elevated lead, and a supply line sample. By collecting these additional samples and comparing their results, it's possible to locate where lead is leaching into your water.

Confirmation Samples

Confirmation samples will confirm your high lead result and can help determine if the fixture itself is contributing lead. *Results from several states show 90% of the time, an elevated sample is a result of lead components in the fixture itself.*

When you order a confirmation sample from the lab, instructions will be included for the collection method. Refer to sampling instructions for guidance on collecting a confirmation sample.

30-Second Flush Samples

The 30-second flush will help determine if the piping *behind* your fixture is contributing to your elevated lead result. For drinking fountains or similar fixtures that share plumbing, a single flush sample may be representative of the shared interior piping. An example would be a drinking water fountain unit with two spouts: a high spout and a low spout.

When you order a 30-second flush sample from the lab, instructions will be included for the collection method. Refer to sampling instructions for guidance on collecting a 30-second flush sample.

Supply line Samples

Use a supply line sample to determine if either the supply line or well pump is contributing lead. Only collect a single sample per supply line.

When you order a supply line sample from the lab, instructions will be included for the collection method. Refer to sampling instructions for guidance on collecting a supply line sample.

Do results from your INITIAL SAMPLE indicate the presence of lead?

Yes	No
If lead was detected in your **initial sample**, it is likely your fixture(s) or the plumbing directly attached to the fixture(s) contains lead components. To confirm your initial results, collect a confirmation sample at each fixture with detectable lead levels. Although it is likely the fixture(s) is responsible for the elevated lead levels, it is still possible your internal piping and/or supply line could also be contributing lead. Collect a 30-second flush sample at each fixture with detectable lead levels. Collect a sample for each supply line. These additional samples will help you determine if the piping and/or supply line is contributing lead.	**Your fixture does not currently need remediation or mitigation.** The DWP recommends sampling your water every few years because changes in water chemistry can cause lead to dissolve into water.

Does the 30 SECOND FLUSH SAMPLE or the SUPPLY LINE SAMPLE have lead?

Yes	No
If the **30-second flush sample** contains lead, it is an indication the internal piping contains lead. If the **supply line sample** contains lead, it is likely the supply line or well pump may contain lead. Refer to *Choosing an Appropriate Mitigation Method* section on page 8 for the next steps.	Lead is most likely coming only from the fixture and/or the plumbing to which the fixture is attached. Refer to *Choosing an Appropriate Mitigation Method* section on page 8 for the next steps.

Choosing an Appropriate Mitigation Method

Once it has been determined mitigation is necessary, you will need to decide on the type of mitigation that is right for your school's system; not all mitigation/remediation actions are appropriate for all schools, locations, or lead levels. Mitigation and remediation methods fall into three different categories: routine, temporary, and permanent control measures, which are discussed in more detail later in this document.

Lead Level at **Tap** or **Fixture**	**Appropriate Mitigation / Remediation Actions**
< 1 ppb or **Not Measurable** (Non-detected)	**Lead was not detected.** These tap/fixtures may be used as normal.
1-3 ppb	**Routine Control Measures** • Regularly flush fixtures to bring a fresh supply of water. • Regularly clean aerators to remove lead particles.
4-10 ppb It is recommended fixtures with lead levels over **4 ppb** be immediately taken out of service until testing indicates the problem has been addressed.	**Temporary and Permanent Control Measures** • Temporarily remove a fixture from service until new plumbing and/or a new fixture can be installed. • Provide bottled water until lead levels have been addressed and reduced through the mitigation/remediation process. • Install a "Do Not Drink" sign. This would only be appropriate for handwash sinks or other fixtures not intended for drinking or cooking. • Replace existing fixtures and/or plumbing. • Permanently remove the fixture from service. • Install a filter. • Add corrosion control chemicals to reduce the corrosivity of your water, after consulting with the DWP.
15 ppb or **Higher**	**The DWP recommends** schools seek outside consultation to address any sample results over 15 ppb.

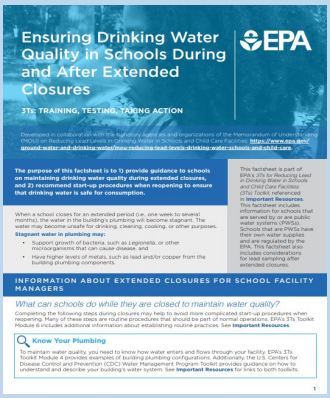
Routine Control Measures

Routine control measures involve any reoccurring activity whose primary goal is to *temporarily* lower lead water levels. While it is recommended all schools engage in routine control measures following extended periods where the water has not been used (after vacations, for instance), these methods are *only adequate solutions for lead water levels below 4 ppb*. Routine control measures are also typically not effective when a building's internal plumbing or supply line is contributing to elevated lead levels.

- **Flushing**

  Flushing involves opening taps and letting the water run to remove water that has been standing in the interior pipes and/or the fixtures. Before implementing this procedure for remediation, consider how often flushing should occur throughout the week – and possibly throughout the day – and whether it is feasible for your facility. Depending upon the age and condition of the plumbing and the corrosiveness of the water, elevated lead levels can return relatively quickly following flushing.

  Flushing can be a quick and easy solution to lead levels under 4 ppb, especially when contamination is localized in a small area or building. It is recommended as a short-term solution only (while more permanent solutions are being implemented) or to improve overall water quality in a building.


Ensuring Drinking Water Quality in Schools During and After Extended Closures

3Ts: TRAINING, TESTING, TAKING ACTION

INFORMATION ABOUT EXTENDED CLOSURES FOR SCHOOL FACILITY MANAGERS

What can schools do while they are closed to maintain water quality?

Know Your Plumbing

To improve your school's water quality, use the EPA's Guide for Improving Water Quality After Extended Closures

If your school uses a well, excessive flushing may stress your source, increasing the risk of losing pressure or running your well dry. At the same time, if your school is connected to a public water utility, this will increase your water usage and water bill.

When using the 'flushing' method…

DO:

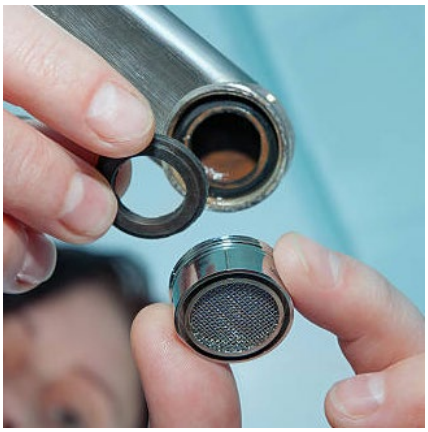
- Develop a system for accountability, including identifying one person who is in charge and record keeping.
- Flush fixtures individually; flushing a toilet will not flush your water fountains.
- Run water for:
  - 30 seconds to 1 minute for handwash sinks and kitchen faucets.
  - 1 minute for unrefrigerated drinking water fountains.
  - 15 minutes for refrigerated drinking water fountains.
- Utilize flushing as a routine practice to improve overall water quality.
- Flush after remediation. In addition to replacing or removing plumbing or fixtures which contain lead, flushing can help clear out debris or lead particulates that may be released when remediation occurs. Remove and rinse the fixture's aerator after flushing to ensure trapped particles are removed.
- Use as a temporary measure while more permanent control measures are being put into place.
- Start with the fixtures closest to the supply line and progress outward from there.

DO NOT:

- Use flushing as a practical remedy for water coolers.
- Flush as a sole effort after finding unacceptable lead levels in your school, without ensuring lead levels will remain low throughout the day.
- Employ flushing as a long-term remediation effort alone. Flushing can be a measure which could be paired with permanent remediation like replacement and/or removal.

- **Cleaning Aerators**

  Lead can dissolve in your water via debris trapped in the water faucet screen called an aerator. These particles dissolve into your water and therefore can increase a water's lead levels. Finding trapped lead debris in an aerator indicates additional remediation should take place to remove the source of lead particles in the plumbing.

  It's recommended to routinely clean your aerator to remove trapped debris to improve your overall water quality and reduce lead exposure. It is not an effective remediation method for lead levels over 3 ppb, so should be combined with more aggressive mitigation/remediation measures.

Temporary Control Measures

Temporary control measures involve preventing water consumption *until the plumbing/fixture can be replaced*. Temporary control measures should be used for fixtures where lead is 4ppb or above, and anytime internal plumbing or supply lines are contributing to elevated lead levels.

- **Shut Off Fixtures**

  If initial sample results from a fixture exceed 4 ppb, the outlet can be shut off or disconnected until the problem is resolved. If the outlet is not used regularly, this may be a viable option; however, if the outlet is frequently used for handwashing, this is probably not a practical solution.

- **Install *Do-Not-Drink* Signs**

  If you cannot immediately replace – and cannot shut off – a fixture whose primary function is not for drinking or cooking, such as a handwash station, you may install a sign that the water should not be used to drink. Signage should be prominent and include words/pictures. It should also be multilingual if there are students for whom English is not the first language.

- **Provide Bottled Water**

  Bottled water is merely a temporary solution and should only be used until fixtures/ plumbing can be replaced. This can be an expensive alternative, but it might be warranted if you are aware of widespread contamination and other remediation is not a near-term option.

Permanent Control Measures

Permanent control measures involve removing lead from water or reducing the amount of lead entering the water. After mitigation/remediation, there are additional follow-up steps. Localized or building-wide flushing should take place after fixtures or internal piping have been replaced, and confirmation samples should be collected to ensure remediation measures were effective. For additional information on follow up sampling, refer to the *Follow-Up Sampling (After Mitigation/Remediation)* section on page 14.

- **Remove or Replace Fixtures**

  After identifying the sources of lead contamination, replacing these fixtures and piping components (e.g., valves, leaded solder) will permanently address the problem, compared with other solutions that have long-term costs and risks. If the sources of lead contamination are localized and limited to a few outlets, replacement may also be the most cost-effective option in the short-term. EPA's guidance document, *How to Identify Lead-Free Certification Marks for Drinking Water System and Plumbing Products* can be a useful resource when selecting lead-free plumbing.

  If multiple components of a single type (for example, fountain valves) are needed, you may wish to initially purchase only one or two. Take follow-up water samples after installing the new component(s) to verify lead levels have been reduced to acceptable levels. If follow-up testing is satisfactory, you can be reasonably certain the product would perform well at other locations in your facilities.

  Pipes within your property and supply lines that are under your and/or a public water system's jurisdiction can be replaced. Contact the public water system regarding who owns the supply line. Your school or district may be responsible for replacing the portion of the supply line that is on school property.

  Ongoing renovation of school buildings may provide an opportunity to modify the plumbing system, so water supplied for drinking or cooking can be redirected to bypass sources of lead contamination. Before undertaking such an alternative, be certain you have properly identified all the sources of lead contamination in drinking water.

  Because electrical current may accelerate the corrosion of lead in piping materials, consider checking grounding wires. In some cases, existing wires already grounded to the water pipes can be removed by a qualified electrician and replaced with an alternative grounding system. Be aware that the removal of grounding from water pipes may create a shock hazard unless an acceptable, alternative ground is provided.

  When making any repairs, be sure only "lead-free" materials are used. The 1986 Safe Drinking Water Act Amendments and the 2011 Reduction of Lead in Drinking Water Act requires only "lead-free" materials be used in new plumbing and plumbing repairs. Make sure all plumbers and other workers involved in construction or maintenance at your school adhere to these requirements. These actions will prevent or minimize new lead from being introduced into the facility's plumbing system. Report any violations of the "lead-free" requirements to the local plumbing inspector, the DWP, or EPA.

- **Install a Filter**

  Point-of-use (POU) filter units are commercially available and can be effective in removing lead. There are a number of POU cartridge filter units on the market with costs running from the relatively inexpensive ($65 to $250) to more expensive units ($250 to $500), with varying effectiveness. Remember filters need routine maintenance to remain effective.

  To find a lead reducing POU filter that will work best for your facility, first verify the product was tested and certified against **NSF/ANSI Standard 53** (for lead removal). This information should be readily available from the manufacturer or from a reputable third-party source (such as NSF International, the Water Quality Association, or the EPA's guide to identifying filters certified to remove lead.)

  For additional protection for particulate lead, look for a POU filter which is also certified against NSF/ANSI Standard 42 (for class I particulate reduction, 0.5 µm to <1 µm).

- **Add Corrosion Control Chemicals**

  The addition of corrosion control chemicals can prevent or mitigate lead from leaching into water when total plumbing replacement is not an option.

  If you are considering installing corrosion control chemicals to treat water entering your building, you should first consult with the DWP. Installation of treatment would lead to your facility being identified as a public water system under the Safe Drinking Water Act (SDWA), and your facility would be required to meet the federal and state regulations for drinking water, including additional water quality monitoring, having a designated operator, and more.

Please consult a water treatment expert before installing any corrosion control chemicals. A list of local treatment companies can be found on the treatment resource page on the DWP website, although other consultants may be available as well.

Follow-Up Sampling (After Mitigation/Remediation)

Work with plumbers and maintenance staff to ensure additional samples are taken from any outlets that were impacted by replacement of fixtures, reconfiguration of plumbing, or other remediation actions.

Additional samples should follow the same testing process as the initial samples. Sample any replaced or reconfigured components using the recommended procedures for first-draw (initial) and/or 30-second flush samples. Follow the sampling instructions included with your sample bottles.

A comparison of original and additional samples will help to assess whether the remediation has been successful in reducing lead in drinking water. Additional samples may be required to further pinpoint sources of lead contamination, if lead levels are still elevated.

Required Reporting

Although all lead mitigation and remediation actions are voluntary, you are required to report those actions. The DWP will reach out to your school via survey to record what actions have been taken or are planned.

It is required that staff, students, and parents be made aware of any discoveries of high lead levels in your school's drinking water. Communication concerning remediation and mitigation efforts should be maintained throughout the process.

Funding for Mitigation and Remediation

Funding and contact information for mitigation and remediation can be found in the EPA's guide for *Potential Funding Sources for Reducing Lead in Drinking Water in Schools and Child Care Facilities.*

The EPA's document provides information on national foundations, corporations, and state and federal agencies that have a strong commitment to supporting school and child-care improvement initiatives. The national organizations listed here provide funding for environmental health, children's health, and environmental education projects. In addition, these organizations are committed to serving their local communities.

The Maine CDC Drinking Water Program will update schools when new funding sources become available. For more information, visit the DWP Website.