

March 10, 2016

Supplemental Lead Sampling Procedures for Schools

In response to concern surrounding potential lead levels in the drinking water in Ithaca City School District Schools, we have received inquiries from other schools and school districts within Tompkins County interested in sampling their own systems for lead. This document is meant to provide you with additional guidance to help assure that any testing provides representative results.

If your school is intending to sample its water system for lead it is very important that you follow the procedures in the EPA guidance *3Ts for Reducing Lead in Drinking Water in Schools, Revised Technical Guidance, October 2006*. It is important that you read through the guidance and understand it before you sample for lead. The *3Ts* guidance document can be found on our website at:

<http://www.tompkinscountyny.gov/health/eh/water/drinking>,

along with other guidance documents and a list of local certified laboratories. The Tompkins County Health Department is available to discuss your plan of action and answer questions.

The information below generally outlines the key points to the sampling process. Refer to the *3Ts* document for greater detail.

Plumbing Profile, Sampling Plan and Water System Operation

1. One of the very first steps is to develop a plumbing profile of your water system. The *3Ts* guidance document provides a questionnaire to assist in developing this profile.
2. Developing your plumbing profile will allow you to target potential problems and understand factors that can contribute to lead contamination.
3. If possible, every outlet used for drinking or cooking should be sampled. If that isn't possible, the guidance provides information on how to prioritize sample locations.
4. Do not make any changes to the drinking water system prior to sampling as this can change lead concentrations in the water. Document any changes required for satisfactory system operation.
5. If turbidity or cloudiness is an issue with the water system, assess the clarity of the water at each proposed sampling location. The water should be clear at the sampling locations.
6. Other disturbances to the drinking water system should be minimized to facilitate collection of representative water samples.

7. The water should sit in the pipes at least 8 but no more than 18 hours prior to sampling. However, do not close the shut-off valves to the water fountains or other fixtures or to the water system to prevent their use during this period prior to sample collection. Place a bag or container over the fixture along with a sign clearly stating that the fixture is not to be used until testing is completed.
8. It is recommended that you do not sample following a weekend or a break. If you do, you may need to flush your system at least eight hours before sampling. To flush the system, the cold water taps will be turned on and allowed to run for 1-2 minutes at a normal flow. **Do not flush aggressively.** It is important that flushing be done properly or it can introduce lead-containing particles into the water system and create erroneous results.
9. Document how the flushing was done, who did it, when it was done.
10. At each location after flushing, collect a sample in a clear glass container for visual analysis to make sure neither turbidity nor particulates are present.
11. If you have any questions, please contact the Tompkins County Health Department for assistance.

Sample Collection and Analysis

1. The certified lab that you select for analyzing your samples will provide sample bottles. Make sure you understand sample preservation and handling requirements.
2. For this lead sampling, sample bottles should be 250 ml, not 1 liter (Note: schools that have their own water systems regulated by the NYS Sanitary Code must use 1 liter bottles when collecting other compliance samples for lead and copper).
3. Normally, sample analysis is limited to lead. The school may consider additional analysis at additional cost. Note that lead contamination is a much greater public health concern than copper.
4. Prior to sample collection, label each sample bottle and start the Chain of Custody.
5. When sampling, place your 250 ml bottles under the fixture and turn it on to induce a small (e.g., pencil-sized) steady flow of water from the outlet, taking care not to begin with a high rate of flow (drinking fountains should be engaged normally).
6. It is important to note sample condition (e.g., color, particulates, etc.) on the Chain of Custody (COC). Also note leaky fixtures (since the samples are then not accurate first-draw samples), any liquid that spills over the sample container, etc. on the chain of custody. Photograph any samples collected that visually may be of questionable quality.
7. Collect one first draw sample from the fixture to be sampled.
8. Present the samples and associated paperwork to the laboratory as soon as practical. Instruct the laboratory to preserve the samples as appropriate, as soon as possible.
9. After sampling, you may want to remove and examine the aerator, take photos of the aerator, collect samples of any solids, etc, off the aerator and place in a zip lock sandwich bag or other sealed container and label to identify the location.
10. Clean or replace the aerator if needed.

When You Receive the Results

1. Please share with Tompkins County Environmental Health (TCEH) documentation on your plumbing profile, sampling procedures, schematics showing sample locations, any summary of results, and the actual lab results and Chain of Custody forms.
2. The EPA *3T's Guidance* strongly recommends that schools take action for any results that exceed 20 parts per billion (ppb). (Schools with their own ground water well will need to comply with the NYS Sanitary Code action level of 15 ppb for lead.)
3. If you receive elevated results, please contact TCEH for assistance with the next steps. Actions may include conducting additional sampling to see the effects of flushing on reducing lead concentrations, replacing fixtures, or other actions.
4. If flushed samples are collected, it is very important to follow the specific guidance in the EPA *3T's Guidance*. As with the initial sampling, turn faucets on to induce a small (e.g., pencil-sized) steady flow of water from the outlet, taking care not to begin with a high rate of flow.

Thank you for collaborating with the Tompkins County Health Department as you assess you school's water system for lead.