



Frequently Asked Questions: Testing for lead in drinking water

Elk Island Public Schools (EIPS) continues to work proactively with Alberta Health, Alberta Health Services and Strathcona County to ensure that our drinking water is safe for staff and students.

Why did EIPS do the testing?

- Since 2014, EIPS has participated in a *voluntary* lead in drinking water testing program offered by Strathcona County. In 2016, routine testing by Strathcona County alerted us to elevated lead levels at one sink location in three different schools.
- Lead solder was used as a connection method for copper pipe was not eliminated in Alberta around 1990—leaving most of our schools at potential risk.
- While the level of lead found in drinking water is considered a minor contributor to overall lead intake compared to environmental sources from air, paint, soil and dust, it was considered prudent to conduct baseline testing at all locations in EIPS schools and identify any necessary actions for a division wide drinking water management strategy.
- Decision to be proactive was due to the potential health effects of lead especially as issues were being reported in other jurisdictions and the desire to ensure lead in drinking water levels are as low as achievable. There was also a pending proposal by Health Canada to lower the allowable lead in drinking water guideline.
- School children are more vulnerable to the effect of lead. High exposure to lead has the greatest impact on the brain development of infants, children under 6 and the fetus of pregnant women because lead is more easily absorbed in this group.

Project Summary

- Working closely with Alberta Health Services, lead in drinking water sampling was conducted at **41 schools** during the 2016-17 school year. All drinking fountains and taps used as main sources for drinking and cooking were tested.
- To simulate a worst case scenario, sampling involved one first draw morning sample taken at each location after the water was allowed to sit in the pipes overnight a minimum of 12 hours.
- Test samples were compared with the Health Canada Guideline for Canadian Drinking Water Quality. At the time of the project, the Maximum Allowable Concentration (MAC) for lead in drinking water to protect public health was 0.01 milligrams per liter (mg/l) or 10 parts per billion (10ppb). Since the study, the MAC has been reduced by half to 0.005 mg/l (5ppb).



- Staff, students, parents and Alberta Health Services were kept apprised of the project results. This was combined with educational resources for staff and families including how to prevent lead exposure at home such as always running water until it is cold before drinking. Schools with locations exceeding the guideline were provided with letters to share with staff and parents outlining the findings and the remedial actions being taken to keep staff and students safe.

Results

- The source of drinking water comes from municipal service lines. To date, no lead service lines have been identified. Any lead found in drinking water would be from lead containing plumbing components (for example, pipes, solder and fixtures).
- Eleven out of 41 school sites (27 per cent) had one or more results that exceeded the Health Canada Guideline of 10 ppb. Date of construction for these schools ranged between 1951 and 1988. Nine sites had drinking locations equal to or slightly greater than the MAC, one site had one location 2 times the MAC and one high school some locations with levels as high as 5 times the MAC.
- The 11 schools sites that had one or more fountains that exceeded the 10 ppb guideline were: Ardrossan Junior Senior High; Bev Facey Community High, Brentwood Elementary, Fultonvale Elementary Junior High, Glen Allan Elementary, Ministik Elementary, Salisbury Composite High, Sherwood Heights Junior High, Strathcona Christian Academy Secondary, Vegreville Composite High, and Wes Hosford Elementary.
- Where necessary, plumbing components were replaced, fountains were taken out of service and if needed, a daily flushing program was implemented. EIPS has been actively installing bottle filling stations with filters at a number of schools.
- For locations that exceeded the 10 ppb Health Canada guideline, resampling was conducted before and after remediation to determine success. Additional samples were taken at 0, 30 and 60 second flushing intervals. Test results have shown that elevated lead levels quickly fall below the MAC after 30 seconds of flushing.
- AHS has indicated that that elevated levels found at some locations did not pose an immediate health risk but supported our efforts to reduce lead levels to as low as possible.



Main Outcomes of the project

- Finding lead in drinking water is a possibility in any school built prior to 1990.
- Elevated lead levels are more likely when water has been stagnating in the plumbing for more than 6 hours and in locations where there is less frequent use of the taps such as in storage rooms or staff offices.
- Elevated lead levels can be managed through a combination of replacing lead containing plumbing components, total fountain replacement or decommissioning and/or a daily flushing program. Test results consistently show that elevated lead levels decrease to negligible when the water is run for 30 seconds or more on first use of the day.
- Short term or infrequent exposure to lead in drinking water at levels above the MAC does not pose an excessive health risk although it is prudent for school divisions to work to reduce exposure to low as reasonably achievable.
- EIPS has been a leader in sharing its experience and assisting Alberta Health with the development of provincial wide sampling guidelines. A final division report is on hold as retesting under the new guideline and protocol is pending.

Next steps:

- The Division will undertake repeat sampling during the 2019-20 school year using the new Health Canada guideline of 0.005 mg/l (5ppb) and the new sampling guidelines for lead in drinking water in schools/daycares that are due to be released by Alberta Health this fall.
- EIPS will conduct followup sampling using the new sampling guidelines and lower exposure guideline as a benchmark for making and necessary adjustments to its water quality management program.
- We will continue to update staff and the school community as we complete followup testing and new information becomes available.
- As always, our first priority is the safety and security of our students and staff. We thank you for your patience and co-operation as we continue to monitor water quality in our schools.
- For more information about lead in drinking water, click [here](#)