



City of Hamilton  
City Hall, 71 Main Street West  
Hamilton, Ontario,  
Canada L8P 4Y5

Hamilton

## **Lynden Community Information Update Lynden Municipal Drinking Water System – Elevated Lead Detection September 13, 2011**

Users of the Lynden Municipal Drinking Water System recently received a Drinking Water Advisory (DWA) from Hamilton's Public Health Services Department. Issuance of this DWA was in response to the detection of elevated lead levels within the water system. The City of Hamilton's Public Works Department continues to analyze best options for improving the existing municipal water system in Lynden. Included in these options are evaluating procedures for early detection of lead release and strategies to eliminate the release of lead into the distribution system. In the long term, the Public Works Department is planning to construct a new water supply. A potential well site has been identified and land has been purchased for the new well and treatment building.

### **A Brief History of the Problem of Lead in the Water Supply**

Over the last two years Public Works, in collaboration with Public Health Services, have undertaken increased sampling and monitoring for lead within the Lynden system to twice-monthly. This has demonstrated that lead concentrations have remained at extremely low levels, and in most cases undetectable. The City samples the raw water, analyzing it with specialized equipment to determine if lead is present in the groundwater. The raw water test results are inconclusive, but do suggest that lead could be present in the ground water either at extremely low concentrations or intermittently through the year. If lead does exist in the ground water, there is a likelihood that the lead becomes concentrated through the water treatment process and collects as sediment. There are several possibilities for the source of the lead and all possibilities will continue to be assessed and resolved.

A lead test conducted on August 17, 2011 detected a lead concentration of 0.0183 milligrams per litre of water (mg/L). The maximum acceptable concentration for lead in drinking water is 0.0100 mg/L, or 10 parts per billion (ppb). Ten follow up water samples collected on August 17, 18, and 19, 2011, did not detect the presence of any lead in the water.

Public Health Services and Public Works have continued to investigate the cause of the elevated lead concentrations detected on August 17<sup>th</sup>. The City has identified the existence of a sediment containing lead on the bottom of a treatment plant reservoir. A review of water turbidity records, operational records, lead testing results, and the fact that lead is being retained as sediment in a reservoir indicates that the increase in lead concentration in the drinking water was an intermittent event.

On September 6, 2011, lab results were reported for water samples collected on September 4, 2011, that indicated two water samples had lead concentrations of 0.0154 mg/L and 0.0276 mg/L. These samples were collected as part of the ongoing investigation into the August 17<sup>th</sup> lead detection and in response to a water main break that occurred on September 4, 2011.

The return of lead concentrations above the maximum acceptable concentration, along with the new knowledge of lead-containing sediment in the treatment plant reservoir were the key factors that prompted Public Health Services to issue a DWA. The second detection of lead above the maximum acceptable concentration on Sept 6, 2011 is suspected to be the result of a disturbance of the sediment at the bottom of the reservoir during the September 4<sup>th</sup> watermain break. A consultant has been hired to investigate and report on the actual cause of these most recent lead detections in the drinking water and to determine the source of the lead found in the sediment.

### **How Customers Should Respond to this Outbreak of Lead in the Drinking Water**

Consuming drinking water with slightly elevated lead concentrations for a short period of time is not a health risk. However, the Medical Officer of Health is of the opinion that a precautionary approach should be taken. All users of the Lynden drinking water system are being notified that low levels of lead have been intermittently detected in their drinking water and that they should not use their tap water for the following uses;

#### **DO NOT USE TAP WATER TO:**

- Drink
- Make meals such as soup, stew, pasta, instant hot cereal, etc
- Make ice, juice, coffee, tea, puddings or other mixes, especially infant formula.

#### **TAP WATER CAN BE USED TO:**

- Wash fruits and vegetables, provided they are dried off prior to eating.
- Wash dishes, provided they are dried off with a clean towel prior to use.
- Shower and bathe.
- Wash hands, flush toilets, and laundry.
- Brush teeth, provided rinse water is not swallowed.

#### **BOILING YOUR TAP WATER WILL NOT REMOVE OR REDUCE LEAD.**

### **What to Expect Over the Next Weeks and Months**

The Drinking Water Advisory will remain in place until Public Health Services is assured that lead concentrations in the drinking water supply are stable, below the maximum acceptable concentration for lead in drinking water, and Public Works has determined and corrected the cause of the increased lead levels.

Public Works is obtaining water filters that meet NSF Standard #53 for lead removal. These filters should reduce the tap water lead concentrations to acceptable levels, provided the filter is used according to the manufacturer's instructions. Residents who wish to receive one of these filters are asked to contact Water and Wastewater Customer Service at 905-546-4426.

If you already use a water filtration system that meets NSF Standard #53 for lead removal you may continue to use your tap water as usual, provided you operate and maintain your filtration system according to manufacturers' instructions.

Call the City of Hamilton Public Works Department at 905-546-4426 (Monday to Friday between 8:30 am and 4:30 pm) if you have questions about the work being done on the Lynden water system.

Call the City of Hamilton Public Health Services Safe Water Information Line at 905-546-2189 (Monday to Friday between 8:30 am and 4:30 pm) if you have any health related questions about lead in your drinking water.

As stated above, the City is currently acquiring a property which provides access to an aquifer that meets the needs of the community. Staff are optimistic that new water well test results will allow this project to enter the next phase which includes the completion of a class environmental assessment by the end of 2011. A capital project is being developed and it is expected that the design and construction of a new well and pump station will be complete by late 2013.

Increased testing will continue to occur throughout the water distribution system to ensure that, any future occurrences of lead in the water are immediately detected and acted upon. With the new knowledge that lead exists in the sediment at the Lynden water treatment plant, Public Works have increased monitoring there and have developed new procedures for the early detection and response to lead discharging into the distribution system.

Public Works is undertaking an assessment of the existing system to determine what, if any, short term options exist with respect to process changes to eliminate the potential for lead release. Any process changes that can be made quickly to assist in preventing the occurrence of elevated lead within the system between now and the commissioning of a new water supply system in 2013 will be considered.

Public Works remains committed to the provision of high quality drinking water and the protection of public health. The events in Lynden over the last two years have been frustrating for users of this system and the City sincerely appreciates the patience of the community as we work toward a resolution of this issue.