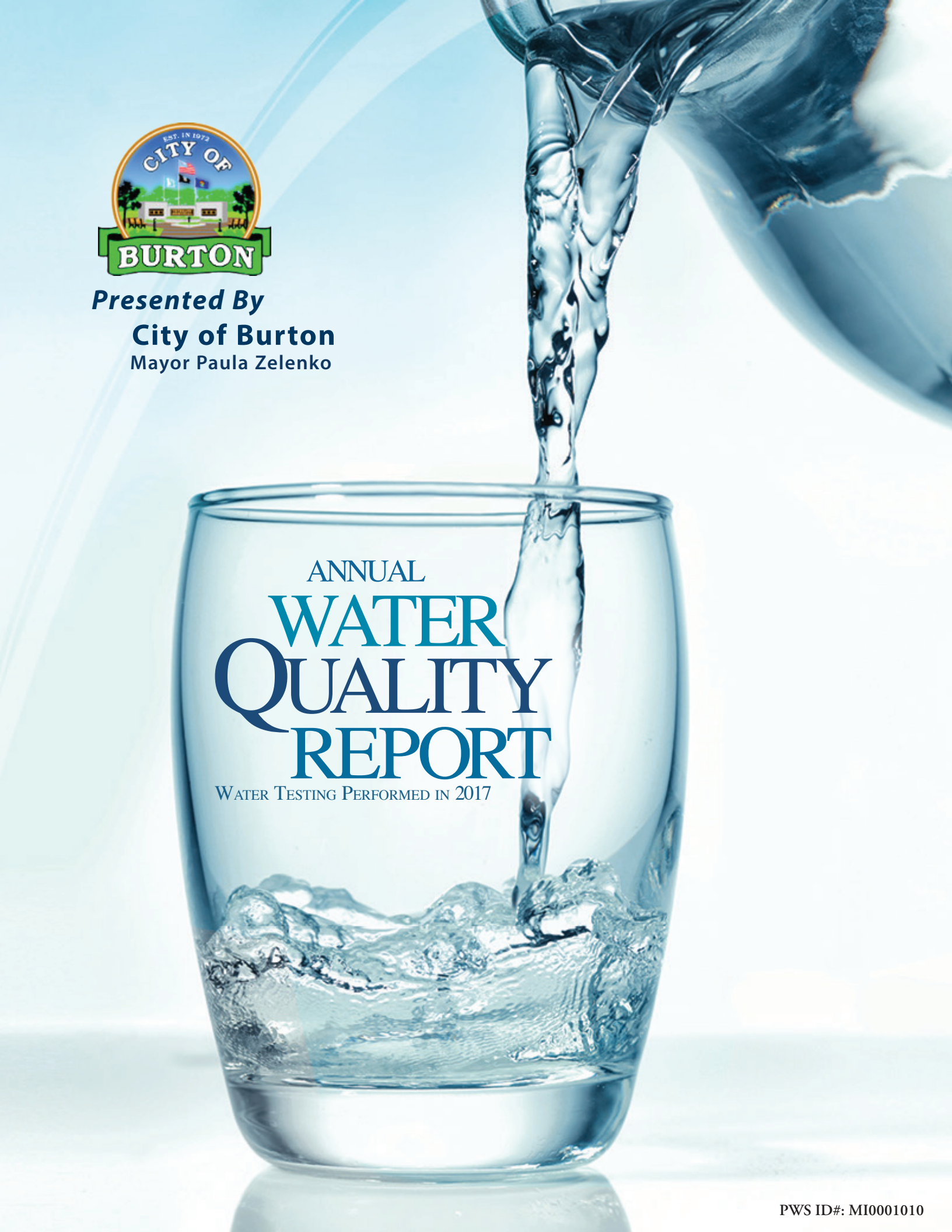


Presented By

City of Burton

Mayor Paula Zelenko

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017

PWS ID#: MI0001010

Quality First

Once again we are pleased to present our annual water quality report. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us the opportunity to serve you and your family.

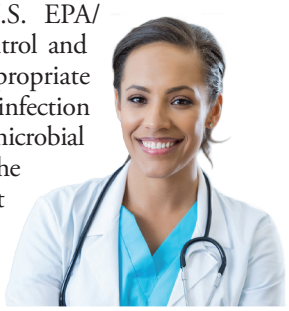
We encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies.

Important Health Information

The susceptible vulnerable subpopulation for copper exposure is people with Wilson's Disease. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctors.

The susceptible vulnerable subpopulation for lead exposure is infants and children. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.



The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems; Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the 1st and 3rd Mondays of each month, beginning at 7 p.m., at City Hall, 4303 S. Center Rd., Burton, MI.

Source Water Assessment Plan

A Source Water Assessment Plan (SWAP) is now available at Genesee County Drain Commission Water and Waste Services. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources. The susceptibility rating is on a six-tiered scale from very low to high, based primarily on geologic sensitivity, water chemistry, and contaminant sources.

The Michigan Department of Environmental Quality, in partnership with the U.S. Geological Survey, the Great Lakes Water Authority, and the Michigan Public Health Institute, performed a source water assessment on the Lake Huron source water intake to determine its susceptibility to potential contamination. The Lake Huron source water intake is categorized as having a moderately low susceptibility to potential contaminant sources. The Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

According to the Source Water Assessment Plan, our water system had a susceptibility rating of low. If you would like to review the Source Water Assessment Plan, please feel free to contact Genesee County Drain Commission office during regular office hours at (810) 732-7870.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders, and pets' water bowls is caused by the growth of the bacterium *Serratia marcesens*. Serratia is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

> "Water treatment is a complex, time-consuming process."

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Where Does My Water Come From?

Your source water comes from the lower Lake Huron watershed; the watershed includes numerous short, seasonal streams that drain to Lake Huron.

Lead in Home Plumbing



If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/lead.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Dave Marshke, Water Department Superintendent, at (810) 742-9230, ext. 3106.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Genesee County Drain Commissioner-WWS Water System Did Not Meet Treatment Requirements

Our water system recently violated a drinking water treatment technique requirement.
It does not require that you take any action. As our customers, you have a right to know what happened, what you should do, and what we have done to correct this situation.

We treat our water to control corrosion and prevent lead and copper in the pipes from dissolving into the water. To ensure we're optimizing corrosion control, we routinely sample the water before it enters the distribution system for water quality parameters specifically orthophosphate and pH. We are required to maintain these parameters within state-designated ranges. While we were unable to always maintain the directed dosage, of 2.1 mg/L orthophosphate, we were able to consistently feed some into the system. We also consistently added lime to raise pH which is an additional method of treatment for corrosion control.

What should I do?

No actions need to be taken. However, if you have specific health concerns, consult your doctor.

What does this mean?

This situation does not require that you take any action. If it had, you would have been notified immediately. This is a treatment violation but does not mean there is lead or copper in your drinking water. In fact, the most recent monitoring indicates that lead and copper levels were below the action levels set by the EPA in at least 90% of residential drinking water taps sampled. During the period when we added phosphate at a reduced rate, we maintained an aggressive investigative sampling regime which indicated NO lead or copper levels near or at the EPA established levels. Also, we are monitoring for lead and other water quality indicators on a regular basis. It is important that we take measures to control lead and copper levels in the water, because ingesting lead or copper can cause serious health consequences.

Lead: Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Copper: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

What happened? What is being done?

On two consecutive delivery dates, the supplier provided the wrong phosphate product and these shipments were rejected. Efforts to obtain reliable deliveries of the specified ortho-phosphate product were not successful. As a result, the water plant was unable to meet the required dosage minimum of 2.1 mg/L of phosphate for 15 days during the first three months of the year. The Division has sought and selected vendors of an alternative product which required some piping changes at our facility. Temporary piping was installed as quickly as possible to return to compliance with the State-mandated phosphate level.
The second element of our corrosion control strategy, that of elevating the pH, was not interrupted by the phosphate shortage. This issue has been resolved.

For more information, please contact **Kevin VanSickle** at **(810) 793-5123** or **KVansickle@gcdcwws.com**

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by the Genesee County Drain Commissioner located at 4414 Stanley Road, Columbiaville, MI 48421.

CERTIFICATION: WSSN:02615



About Our Violations

During the Fall of 2017 we tested for lead and copper at 60 locations throughout our distribution system. One of those samples exceeded the maximum contaminant level for both lead and copper. It was determined that the water at this location had been dormant for approximately 6 months before the sample was taken. This result was indicative of the internal plumbing materials and not representative of distribution system materials. After flushing the internal plumbing lines properly and following proper sampling procedures, the resample results came back as Not Detected for both compounds on 9-21-2017.

We also experienced a monitoring violation on our standby well that is not used for water production within our system. We were required to submit one (1) arsenic sample by 9-30-2017 but did not submit this sample until 12-6-2017. We have since returned to compliance. We have already taken the steps to ensure that adequate monitoring and reporting will be performed in the future so that this oversight will not be repeated.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The state recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

The Total Organic Carbon (TOC) removal is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month (each quarter, for Keregnondi) and, because the level was so low, there is no requirement for TOC removal.

REGULATED SUBSTANCES

				City Of Burton		Great Lakes Water Authority		Keregnondi Water Authority			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2017	15	0	NA	NA	NA	NA	2.4	1.1–2.4	No	Erosion of natural deposits
Barium (ppm)	2017	2	2	NA	NA	0.01	NA	0.01	ND–0.01	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2017	[4]	[4]	2.9	0.08–2.9	0.7 (RAA)[1]	0.2–1.60	0.64 (average)	0.4–0.9	No	Water additive used to control microbes
Chromium (ppb)	2015	100	100	1.3	0.28–1.3	NA	NA	NA	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2017	5	0	NA	NA	NA	NA	2.28	0.77–2.28	No	Erosion of natural deposits
Fluoride (ppm)	2017	4	4	NA	NA	0.72	NA	0.85	ND–0.85	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs] (ppb)	2017	60	NA	25	8–25	17 (LRAA)[2]	5–17	NA	NA	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	NA	NA	0.34	NA	NA	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	70	23.5–70	35.2 (LRAA)[2]	9.3–57.8	NA	NA	No	By-product of drinking water disinfection
Turbidity[3] (NTU)	2017	TT	NA	NA	NA	0.3	0.29–0.3	0.56	0.3–0.56	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	NA	NA	95	NA	99	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community.

		City Of Burton					
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.130	1/61	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

		Great Lakes Water Authority		Keregnondi Water Authority	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Sodium (ppm)	2017	4.46	NA	ND	NA

UNREGULATED CONTAMINANT MONITORING RULE - PART 3 (UCMR3)

		City Of Burton		Great Lakes Water Authority	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Chromium [Total] (ppb)	2014	NA	NA	NA	0.22–0.34
Chromium-6 (ppb)	2015	0.21	0.097–0.21	NA[4]	0.082–0.1[4]
Strontium (ppb)	2015	108	101–108	NA[4]	97.2–106[4]
Vanadium (ppb)	2015	0.53	0.2–0.53	NA[4]	ND–0.23[4]

[1] Running annual average.
[2] Locational running annual average.
[3] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.
[4] Sampled in 2014.

Definitions

AL (Action Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.