### Contaminants Detected in 2013

No contaminants were detected at levels that violated federal drinking water standards. The Milwaukee Water Works has an extensive, acclaimed water quality monitoring program, testing for over 500 contaminants, only 26 of which were detected in treated water in 2013. Those detected were below levels allowed by state and federal laws or not at all regulated, as shown in the table below. A list of the hundreds of other compounds for but not detected can be found at [www.milwaukee.gov/water/about/WaterQuality.htm](http://www.milwaukee.gov/water/about/WaterQuality.htm). Scroll down to Resource Links, choose 2013 Undetected Chemical Contaminants.

### WATER QUALITY REPORT

This report is for you:

The U.S. Environmental Protection Agency (EPA) Safe Drinking Water Act requires drinking water utilities to provide an annual Consumer Confidence Report, or Water Quality Report. This is our opportunity to inform you about the source and quality of your drinking water, compliance and detected contaminants, and other information reflecting results from treating and monitoring water Jan. 1 – Dec. 31, 2013. The Milwaukee Water Works is committed to ensuring your water quality, reliability, and security. We encourage you to learn the facts and be confident in your Milwaukee water.

A public water utility belongs to all of us. Water rates, not taxes, pay the cost to purify and pump the water and keep infrastructure in reliable working condition. As a non-profit agency, we continuously reinvest revenue from rates in our utility. Established in 1871 and owned by the City of Milwaukee, the Milwaukee Water Works is intended to be the largest and oldest continuously operating water utility in Wisconsin.

We provide water service to over 860,000 people in an area of 196 square miles in Milwaukee, Brown Deer, Butler, Franklin, Greendale, Greenfield, Hales Corners, Menomonee Falls, Mequon, New Berlin, Shorewood, St. Francis, Thiensville, Wauwatosa, West Allis, West Milwaukee, and to the Milwaukee County Grounds.

### Milwaukee Water Cycle

Milwaukee's water source is freshwater Lake Michigan. After we purify the water, we pump it into the distribution system of water mains to your service line pipe, and through the water meter into your home. After you use water, it leaves your home through the sanitary sewer pipe and flows to the Milwaukee Metropolitan Sewerage District treatment facility where it is treated and returned to Lake Michigan.

### What’s in the water?

As water flows through rivers and lakes and over land surfaces, naturally occurring substances may be dissolved in the water that reaches Lake Michigan. We call all these substances contaminants. Surface water sources may be highly susceptible to contaminants. Surface water is also affected by animal and human activities. Read the Department of Natural Resources (DNR) Source Water Assessment for Milwaukee at [milwaukee.gov/water/about/WaterAssessment_for_Milwaukee.htm](http://milwaukee.gov/water/about/WaterAssessment_for_Milwaukee.htm).

Contaminants that may be present in source water include microbial contaminants such as viruses, protozoa and bacteria; inorganic contaminants such as salts and metals; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. Learn more about contaminants and potential health effects by calling the EPA Safe Drinking Water Hotline, 1-800-426-4791. A find a table of contaminants detected by the Milwaukee Water Works on page four of this report.

### Tap water meets health-based standards

Federal and state drinking water standards are set after extensive review of the best-available science and public health needs. Water provided by the Milwaukee Water Works meets or surpasses all standards. However, technological advances may change how both the media and customers define or perceive water quality. For example, scientists now can detect contaminants in as little as parts per trillion – equal to a few drops of water in 20 Olympic-size swimming pools. Decades ago, this wasn’t possible.

At low levels, these contaminants generally are not harmful in drinking water. Removing all contaminants simply because they are detected can be extremely expensive, and in most cases, would not provide increased protection of public health. Therefore, we do not provide increased protection of public health. Therefore, we support drinking water research by the EPA, the Water Research Foundation, and other agencies. We also have been recognized by the EPA for our collaboration with health agencies to track and respond to public health issues related to water.

Of all the choices of water available to you, only one must meet all standards of the Safe Drinking Water Act: Your tap water.
Water Treatment and Quality Monitoring for Your Health

1. Ozone Disinfection: Ozone gas is bubbled through the incoming lake water. Ozone destroys disease-causing microorganisms including Giardia and Cryptosporidium, controls taste and odor, and reduces the formation of chlorine disinfection by-products.

2. Coagulation: pH is adjusted to 7.5 with lime slurry to neutralize the charge on the microscopic particles in the water. The water is then gently mixed to encourage the suspended particles to stick together to form floc.

3. Sedimentation: Sedimentation is the process in which the floc settles out and is removed from the water.

4. Biological Active Filtration: The water is slowly filtered through 2 1/2" diameter activated coal and 12" of crushed sand to remove very small particles.

5. Chlorine Disinfection: Chlorine is added as a secondary disinfectant. This provides extra protection from potentially harmful microorganisms.

6. Fluoridation: Fluoride, when administered at low levels, is proven to help prevent tooth decay.

7. Clearwell Storage: Treated water is stored in deep underground tanks and pumped as needed through the distribution system.

8. Chloramine Protection: Chloramine changes the chlorine to chloramine, a disinfectant that maintains bacteriological protection in the distribution system.

9. Disinfection: Disinfection is added to the water to neutralize the charge on microscopic particles in the water. The water is then rapidly mixed to encourage the suspended particles to stick together to form floc.

Water quality monitoring and screening activities look for organisms and contaminants not yet regulated but considered of emerging concern. We test source and treated water for over 500 contaminants while the EPA requires tests for only 91. We continuously conduct water quality monitoring, or sampling, from the lake source water to the distribution system of 1,956 miles of water mains that carry over 100 million gallons of treated water every day.

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Health Precautions

Some people may be more vulnerable to contaminants in drinking water than the general population. These include people with compromised immune systems, those with cancer undergoing chemotherapy, people who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some chemotherapy, people who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some...