

WATERLOO WATER WORKS 2016 ANNUAL DRINKING WATER QUALITY REPORT

We are very pleased to provide you with this year's Annual Drinking Water Quality Report. We want to keep you informed about the safe and dependable drinking water delivered to you. The goal of the Waterloo Water Works is to provide adequate quantities of high quality water to its customers for domestic, industrial, and fire protection purposes at the most reasonable cost.

The information presented in this pamphlet is based on water samples collected from our 14 wells, random sites within the community that represent the water quality in the piping system, and some from customer residences in the Waterloo area. The Waterloo Water Works not only monitors drinking water more frequently than is required by the federal and state regulations, but also tests for contaminants that are not even regulated – *all to assure that the water flowing from your tap is safe.*

The Environmental Protection Agency regulates the quality of drinking water. In 1974, Congress passed the Safe Drinking Water Act that required the EPA to establish uniform standards for drinking water. These water quality regulations were amended in 1986, and again in August of 1996. Iowa has adopted these standards and in some cases have set more stringent standards, all of which are enforced by the Iowa Department of Natural Resources.

WHERE DOES MY WATER COME FROM?

Most of Waterloo's water is obtained from 14 wells scattered throughout the City of Waterloo. The wells draw water from the Cedar Valley Aquifer, a limestone rock formation containing a very large amount of water. A clay layer above the limestone helps prevent contamination from getting into the water supply of most wells. Since the aquifer is protected from contamination, the only treatment required is the addition of chlorine. Fluoride is added for the reduction of dental cavities in children. The depths of the wells range from 76 feet to 225 feet, which is where the Cedar Valley limestone formation is found. The total capacity of the Waterloo water system is 50 million gallons per day while the most pumped in any one-day has been 28.8 million gallons. The average daily pumpage in 2016 was 12.1 million gallons per day.

Some of Waterloo's water supply is obtained from an alluvial aquifer which runs along the Cedar River. This aquifer was determined to be highly susceptible to contamination because of the characteristics of the aquifer and its overlying material that can allow contaminants to move through the aquifer fairly quickly. These alluvial wells are more susceptible to activities such as leaking underground storage tanks, toxic release inventory sites, hazardous waste generators, and wastewater treatment plants. No contamination has been detected in these wells. Our sampling program monitors these wells very closely to detect any change in the water quality.

A Board of Trustees, consisting of Terry Kuntz, Chairman; Mary Potter, Vice Chair; and Scott Wienands, Trustee; administers the Waterloo Water Works. The Board meets in public session monthly at the office of the Waterloo Water Works, 325 Sycamore Street, Waterloo, Iowa. The General Manager is Dennis D. Clark, P. E. Please contact the Water Works Office for the Board meeting dates.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline.

If you have any questions about this report or for more information about the Waterloo Water Works, call Tim Robbins at the Waterloo Water Works at 232-6280. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or the Iowa Department of Natural Resources at 1-563-927-2640.

We are pleased to report that Waterloo's drinking water is safe and meets or exceeds all federal and state drinking water requirements. The Waterloo Water Works is proud to be a recipient of the American Water Works Associations' "Best Tasting Water in Iowa" Award.

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Iowa's Best Tasting Water

The following table shows the results of water quality monitoring from Jan. 1 2016 to Dec. 31 2016, however, some of the data, though representative of the water quality, is more than a year old. The data presented in this report is from the most recent testing done in accordance with EPA regulations. Certain water quality tests are only conducted every 3, 6, or 9 years.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. The data in the accompanying tables are from water samples that have been analyzed by laboratories which are certified by the Iowa Department of Natural Resources.

WATERLOO WATER WORKS 2016 WATER ANALYSIS

| ANALYTE | MCLG | MCL | AVERAGE VALUE | SAMPLE DATE | VIOLATION | LIKELY SOURCE OF ANALYTE |
|---|---------|--------------|--|-------------|-----------|--|
| REGULATED AT THE WELL | | | | | | |
| Nitrate (as Nitrogen) * | 10 ppm | 10 ppm | Ave. 5.2 ppm Range 2.2 to 8.3 | MONTHLY | NO | Runoff from fertilizer use, leaching from septic systems, sewage, erosion of natural deposits. |
| Fluoride | 4 ppm | 4 ppm | Ave. 0.70 ppm Range 0.51 to 0.98 | DAILY | NO | Erosion of natural deposits. Water additive which promotes strong teeth. |
| Sodium | N/A | N/A | Ave. 16.1 ppm Range 8.1 to 26.2 | 3/5/2015 | NO | Erosion of natural deposits. Added during water treatment process. |
| Barium | 2 ppm | 2 ppm | Ave. .152 ppm Range .058 to .227 | 3/21/2012 | NO | Discharge from drilling waste, discharge from metal refineries, erosion of natural deposits. |
| Selenium | 50 ppm | 50 ppm | Ave. 2.76 ppm Range 2.3 to 4.1 | 3/21/2012 | NO | Discharge from petroleum and metal refineries. Erosion from natural deposits, mine discharge. |
| VOLATILE ORGANICS | | | | | | |
| 1,1,1-Trichloroethane | 200 ppb | 200 ppb | Ave. 0.57 ppb Range ND to 1.11 | 12/31/2013 | NO | Discharge from metal degreasing sites and other factories. |
| cis 1,2-Dichloroethylene | 70 ppb | 70 ppb | 1.03 ppb | 10/13/2015 | NO | Discharge from industrial chemical factories. |
| Tetrachloroethylene | 0 ppb | 5 ppb | 1.85 ppb | 4/20/2016 | NO | Discharge from factories and dry cleaners. |
| Trichloroethylene | 0 ppb | 5 ppb | 2.68 ppb | 10/13/2015 | NO | Discharge from metal degreasing sites and other factories. |
| REGULATED AT THE CUSTOMER'S TAP | | | | | | |
| Lead** | 0 | AL 15 ppb | 90 percentile 4.60 ppb Range ND to 7.0 ppb | 7/30/2014 | NO | Erosion of natural deposits in the ground. Corrosion of household plumbing systems. |
| Copper | 1.3 ppm | 1.3 ppm | 90 percentile 0.155 ppb Range 0.0157 to 0.278 | 7/30/2014 | NO | Erosion of natural deposits in the ground. Corrosion of household plumbing systems. |
| REGULATED IN THE DISTRIBUTION SYSTEM | | | | | | |
| Chlorine | 4 ppm | 4 ppm | Ave. 1.0 ppm Range .41 to 1.81 | DAILY | NO | Water additive used to control microbes. |
| Total Trihalomethanes | N/A | 80 ppb | Max Value 12.00 ppb | 9/15/2016 | NO | By-product of drinking water chlorination. |
| Total Haloacetic Acids | N/A | 60 ppb | Max Value 4.0 ppb | 9/15/2016 | NO | By-product of drinking water chlorination. |
| Alpha Emitters (pCi/L) | 0 | 15 pCi/L | 1.4 pCi/L | 3/29/2012 | NO | Erosion of natural deposits. |
| Combined Radium | 0 | 5 pCi/L | 0.9 pCi/L | 3/29/2012 | NO | Erosion of natural deposits. |
| Total Coliform Bacteria | 0 | Less than 5% | No Positives | MONTHLY | NO | Naturally present in the environment. |
| E. coli Bacteria | 0 | 0% | No Positives | MONTHLY | NO | Human and animal fecal waste. |

Listed above are all of the analytes that were previously detected in Waterloo's drinking water. Not listed were the numerous other analytes which were tested for but were not detected.

We are proud to provide you with water that meets or exceeds all federal and state requirements. We have learned through our continued monitoring that even though some of these constituents have been detected, the EPA has determined that your water IS SAFE at these levels.

* Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause "blue baby syndrome". Nitrate levels may rise quickly for short periods of time due to heavy rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider. If the nitrate level rises above the MCL, the community will be notified immediately.

** 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. The Waterloo Water Works is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 2 minutes before using water to drink or cook. If you are concerned about lead, you may wish to have your water tested at an approved laboratory. Information on lead in drinking water, testing methods, and steps to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

DEFINITIONS:

ND - None Detected

N/A - Not Applicable

AL - Action Level - Concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Action levels are reported at the 90th percentile for homes at greatest risk. No action levels were exceeded.

pCi/L - Pico curies per liter (a measure of radioactivity)

ppm - One part per million is like 1 inch in 16 miles or one minute in two years.

ppb - One part per billion is like one minute in 2000 years or a single penny in \$10,000,000.

MCL - Maximum Contaminant Level - the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG 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.

EPA - Environmental Protection Agency

Thank you for allowing us to continue providing your family with clean, quality water this year. We intend to maintain a safe and dependable water supply. We are continually making improvements that will benefit the service to all of our customers. All improvements are paid for from water revenue. If you have any questions regarding this report, call Tim Robbins at 232-6280.

For more information about the Waterloo Water Works, visit us at http://www.cityofwaterlooiaowa.com/departments/water_works/
Call the Waterloo Water Works office today at 232-6280 to set up electronic payment for your water, sewer, stormwater, and garbage bill. With electronic bill payment, funds are automatically withdrawn from your account. You will still receive a quarterly billing statement so you can make the proper entry in your account register. *Let the Waterloo Water Works work for you!*

The cost of this report is paid from water revenue.