

City of Madison - PWS ID: IN5239006 Annual Water Quality Report

The Madison Water Department is proud to present its Annual Water Quality Report for 2016. The purpose of this report is to raise your understanding of drinking water and increase the public's awareness of the need to protect drinking water resources. This report includes a description of Madison's water system, our treatment methods, and the results of water quality testing that was performed from January 1 through December 31, 2016.

The Madison Water Department is proud of its record of providing high quality water to its customers. In order to ensure that our water is safe to drink, we conduct regular sampling for different contaminants. The United States Environmental Protection Agency (EPA) and Indiana Department of Environmental Management (IDEM) have established limits for these contaminants. During the 2016 calendar year, as in previous years, there were no violations of any of these standards in the Madison water system.

Drinking Water Source, Treatment Methods and Distribution System

The Madison Water Department obtains all of its water from seven wells. Nearly 900 million gallons of water was pumped from these wells in 2016. In accordance with Indiana State law, the Madison Water Department has prepared a Wellhead Protection Program to ensure the safety of these wells. The Phase III wellhead Protection plan was approved by IDEM in 2013. A source water assessment was performed by IDEM in 2006, and their work indicated that Madison's wellfields have a high susceptibility to potential sources of contamination. This rating reflects local geology, the number of potential contaminant sources located within the wellhead protection area (such as abandoned gas stations), and the types of contaminants associated with those potential sources. Copies of this assessment are available by contacting Madison's Utility Billing office at (812) 265-8312.

The raw water from the wells is treated with chlorine for disinfection, and fluoride to prevent tooth decay. The treated water is distributed through approximately 120 miles of water main pipes for delivery to over 5,700 customers. This distribution system also includes six storage tanks that have a total capacity of 3.9 million gallons. Because the Madison Water Department sells water to a number of rural water systems that surround the City, we estimate that our wells provide water to a total population of over 20,000 people.

Potential Sources of Drinking Water Contamination

While groundwater wells such as Madison's are a generally safer and more reliable source of drinking water than surface water sources such as rivers and lakes, all types of source water can be exposed to different contaminants. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. It may also pick up substances resulting from the presence of animals or from human activity.

Contaminants 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, and wildlife.
- Inorganic Contaminants, such as salts and metals, which can be naturally occurring or result from urban storm 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 storm water runoff, and residential uses.
- Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also can come from gas stations, urban storm water runoff, and septic systems.
- Radioactive Contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, IDEM and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

All drinking water sources, 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. More information about such contaminants and their potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Terms and Definitions

- ug/L:** Number of micrograms of substance in one liter of water
- ppm:** parts per million, or milligrams per liter (mg/L)
- ppb:** parts per billion, or micrograms per liter (µg/L)
- pCi/L:** picocuries per liter (a measure of radioactivity)
- NA:** not applicable
- ND:** Not detected
- NR:** Monitoring not required, but recommended.
- 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.
- 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.
- TT:** Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
- AL:** Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Variances and Exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
- MRDLG:** Maximum residual disinfection 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.
- 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.
- MNR:** Monitored Not Regulated
- MPL:** State Assigned Maximum Permissible Level

TEST RESULTS								
Contaminants	MCLG or G	MCL, TT, or MRDL	Highest Level Detected	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfectant By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Haloacetic Acids (HAA5) (ppb)	NA	60 ppb	5	0	7	2016	No	By-product of drinking water disinfection.
Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future								
Chlorine (as Cl ₂) (ppm)	4	4	1	1	1	2016	No	Water additive used to control microbes.
TTHMs [Total Trihalomethanes] (ppb)	NA	80	9	1.6	25.7	2016	No	By-product of drinking water disinfection
Inorganic Contaminants								
Fluoride (ppm)	4	4.0	0.4	0.4	0.4	2014	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	2	1.81	2.26	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium (ppm)	2	2	0.098	0.098	0.098	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium (ppb)	100	100	2	0	2	2014	No	Discharge from steel and pulp mills; Erosion of natural deposits
Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL		Typical Source
Inorganic Contaminants								
Copper - action level at consumer taps (ppm)	1.3	1.3	0.296	2014	0	No		Corrosion of household plumbing system Erosion of natural deposits; Leaching from wood preservatives
Lead - action level at consumer taps (ppb)	0	15	3.5	2014	1	No		Corrosion of household plumbing system Erosion of natural deposits

Special Health Information

Some people may be more vulnerable to certain 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 at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and 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 1-800-426-4791.

Lead in Drinking Water

“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. Madison Water Department is responsible for providing high quality drinking water, but 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 <http://www.epa.gov/safewater/lead>.”

How to Contact Us

For more information about this report, please call the Madison Utility Manager, Brian Jackson, at (812) 265-8326. You can also e-mail your questions to utilitymanager@madison-in.gov.

Customers may also attend Madison’s Board of Public Works and Safety meetings. These public meetings are held at Madison City Hall (101 W Main Street) on the first and third Monday of every month at 11:30 a.m.

Water Information Sources

Madison Water Department:

www.madison-in.gov/water_dept.htm.

Indiana Department of Environmental Management:

www.in.gov/idem

United States Environmental Protection Agency:

www.epa.gov/safewater

Centers for Disease Control and Protection:

www.cdc.gov

American Water Works Association:

www.awwa.org

Water Quality Association:

www.wqa.org

Safe Drinking Water Hotline:

1-800-426-4791



CITY OF MADISON WATER DEPARTMENT
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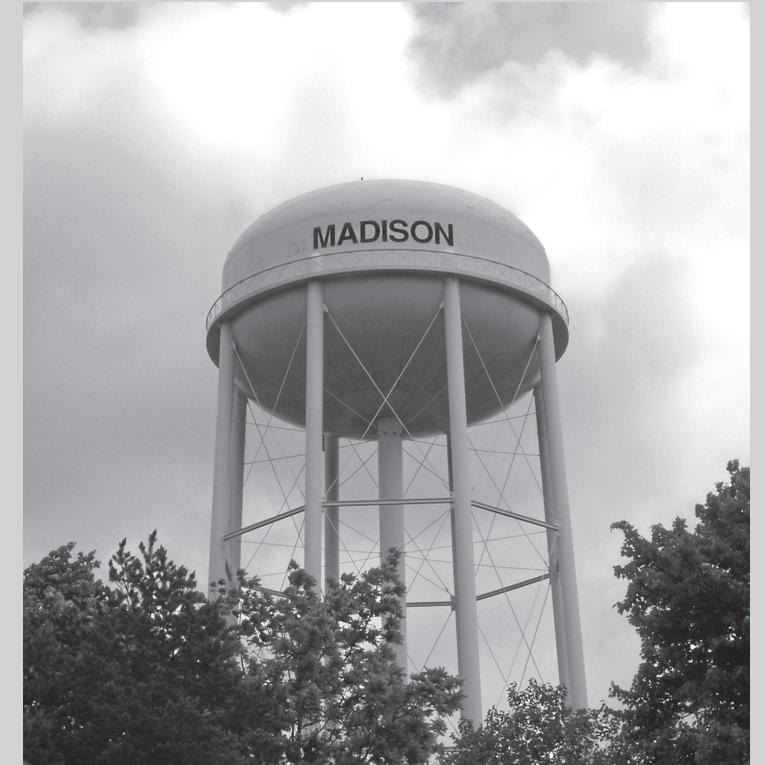
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