

# WATER QUALITY REPORT



This Water Quality Report is for the compliance period of January 1 to December 31, 2016. This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

**City of Rock Island**  
**309-732-2200** [rigov.org/water](http://rigov.org/water)

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This past year, as in previous years, Rock Island's tap water met all USEPA and Illinois drinking water quality standards. Rock Island continues to use the Mississippi River as its source for drinking water. The City of Rock Island provides extensive treatment and performs over 15,000 chemical and bacteriological tests annually to insure that the highest quality water is provided to its citizens.

In the United States, the main sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater aquifers. As water travels over the surface of the land or filters into the ground it can dissolve naturally-occurring minerals, which in some cases may be radioactive material. These same waters may also absorb harmful contaminants that may be a direct result of the presence of animal or human activity.

Contaminants that may be present in source water include:

- ◆ Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural or livestock operations and/or wildlife.
- ◆ Inorganic contaminants, such as salts and metals, can be naturally occurring or result from urban storm water 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, are by-products of industrial processes and petroleum production, and can also 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.

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.

FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as a person with cancer who is undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders and, certain elderly individuals and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline 1-800-426-4791.

## Water Service Repair Program

This program will protect you from the unexpected costs of a water service repair and the nuisance of arranging financing and hiring a plumbing contractor on short notice.

The Water Service Repair Program is available to customers who own non-leaking water services that are 1½ inches in diameter or less at a cost of \$5.00 per month.

Contact the Public Works Department at 732-2200 or visit the city's website at [rigov.org/water](http://rigov.org/water) for additional information.





#### **Rock Island claims third place in WaterCon Top Ops Competition!**

On March 20, 2017, City employees John Kitson, Kelly Miles, and Jason Upton represented the City of Rock Island at WaterCon Top Ops 2017.

Top Ops is a contest between water treatment operators to showcase their talents by competing against each other in a competitive, fast-paced question-and-answer tournament.

Questions encompass all aspects of water operations and treatment, comparable to the water operator certificate exam.

Congratulations to the team for bringing home the third place trophy in their first ever WaterCon Top Ops competition!

#### **Water Storage**

The City has 10,850,000 gallons of drinking water storage.

8,000,000 gallons are stored in the Domes (constructed in 1938).

2,850,000 gallons are stored in the six water towers.

Water is pumped into the five water towers between the rivers by the pumping station at the Domes.

Water is pumped into the southwest tower by the pumping station on Ridgewood Road.

#### **Rock Island Water System History**

- 1871 A pumping station at 6th Street began distributing untreated Mississippi River water to customers.
- 1882 The current pumping station at 24th Street was constructed and the water intake was moved to the north side of the Rock Island Arsenal.
- 1891 Rock Island began treating the Mississippi River water.
- 1895 The first water mains were installed in the "Hill District".
- 1900 The Water Treatment Plant at 24th Street/16th Avenue was constructed.
- Late 1920's Rock Island began drinking water disinfection.
- 1938 The "Domes" were constructed.
- 1959 The first water main was extended under the Rock River to serve southwest Rock Island.
- 1999 Existing chemical treatment and sedimentation process systems replaced with Infilco-Degremont Super-Pulsator technology and pulse feed chemical treatment equipment.
- 2017 Construction of a new state of the art filtration facility will begin to replace the 109 year old filtration building ensuring the citizens of Rock Island continue to have the highest quality water for decades to come.

#### **Water Treatment Plant**

Treatment Capacity = 12,000,000 gallons per day

Average Production = 5,000,000 gallons per day

#### **Raw Water Supply**

The raw water intake is incorporated in Lock and Dam 15.

Two raw water pipelines (1894, 1965) carry river water by gravity from the river to the Raw Water Pumping Station (1894).

The pumps in the Raw Water Pumping Station push river water a mile south and 150 feet up the hill to the Water Treatment Plant in three raw water pipelines (1900 x 2, 1962).

The raw water pumps and controls were replaced in 1999.

#### **Water Distribution System**

223 miles of water main (1 inch to 36 inch diameter)

1,900 fire hydrants

4,200 valves

15,000 water meters



The following tables contain scientific terms and measures, some of which may require explanation.

**Definitions:**

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

**Action Level Goal (ALG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

**Maximum Contaminant Level Goal (MCLG):** 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.

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

**Maximum Residual Disinfectant Level (MRDL):** The highest level of disinfectant allowed in drinking water.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant in drinking water below where there is no known or expected risk to health. MRDLG's allow for a margin of safety.

**Range of Levels Detected:** This column represents a range of individual sample results, from lowest to highest that were collected during the CCR calendar year.

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

**ND:** Not detectable at testing limits

**N/A:** Not Applicable

**ppm:** Parts per million, or milligram per liter

**ppb:** Parts per billion, or micrograms per liter

**NTU:** Nephelometric Turbidity Unit, used to measure cloudiness in drinking water

## REGULATED CONAMINANTS DETECETED

Regulated Contaminants	Maximum Contaminant Level Goal	Total Coliform MCL	Highest # of Positive Total	Total # of Positive E. Coli or Fecal Samples	Violations	Likely Source of Contaminant
Coliform Bacteria	0	5% monthly samples are positive	2.3% or 1 positive out of 41 monthly samples	0	No	Naturally present in the environment

Regulated Contaminants	Date Sampled	MCLG	Action Level	90 Percentile	# Sites Over AL	Violations	Likely Source of Contaminant
Lead	9/30/14	0 ppb	15 ppb	1.5	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper	9/30/14	1.3 ppm	1.3 ppm	0.12	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

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 City of Rock Island 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violations	Likely Source of Contaminants
<b>Disinfectants and Disinfection By-Products</b>								
Chloramines	12/31/16	2.3	1.0-3.1	ppm	MRDLG=4	MRDL=4	No	Water additive used to control microbes
Total Haloacetic Acids (HAA5) [1]	2016	38	21-55	ppb	N/A	60	No	By-product of drinking water disinfection
TTHMs [2] (total Trihalomethanes)	2016	49	22-71.3	ppb	N/A	80	No	By-product of drinking water disinfection
<b>Inorganic Contaminants</b>								
Barium	2016	0.035	0.035-0.035	ppm	2	2	No	Discharge of drilling wastes, Discharge from metal refineries; Erosion from natural deposits.
Fluoride	2016	0.7	0.7-0.7	ppm	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Manganese	2016	4	4-4	ppb	150	150	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Nitrate (measured as Nitrogen)	2016	3	2.5-2.5	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	2016	26	26-26	ppm	N/A	N/A	No	Erosion of naturally occurring deposits; Used in water softener regeneration
Zinc	2016	0.011	0.011-0.011	ppm	5	5	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Naturally occurring; Discharge of metal.

There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

Finished Water Turbidity	Limit Treatment Technique	Level Detected	Violation	Source
Highest Single Measure	1 NTU	0.45 NTU	No	Soil Runoff
Lowest Monthly % Meeting Limit	0.3 NTU	99.5%	No	Soil Runoff

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

### Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

[1,2] 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.

MCL Statement: The maximum contaminant level (MCL) for TTHM and HAA5 is 80 ppb and 60 ppb respectively and is currently only applicable to surface water supplies that serve 10,000 or more people. These MCLs will become effective 01/01/2004 for all groundwater supplies and surface supplies serving less than 10,000 people. Until 01/01/2004, surface water supplies serving less than 10,000 people, any size water supply that purchase from a surface water source, and groundwater supplies serving more than 10,000 people must meet a state imposed TTHM MCL of 100 ppb. Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their livers, kidneys, or central nervous systems, and may have increased risk of getting cancer.

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old. 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. AL (Action Level): The concentration of a contaminant which, if exceeded triggers treatment or other requirements which a water system must follow.

**Source Water Assessment Summary**

Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems, hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. Within the Illinois portion of the Upper Mississippi River Watershed, many commodities, including manufactured goods, petrochemicals, and pesticides are transported along the river system. The production, storage, and transportation of these commodities are a major concern, especially when occurring near water intakes. In addition, agricultural runoff within the Illinois portion of the Upper Mississippi River Basin contributes to the susceptibility of the Rock Island intake. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the Rock Island intake was determined using data from a joint U.S. Environmental Protection Agency/U.S. Geological Survey project. This project used a computer modeling (SPARROW) to determine travel times on major rivers in the United States.

We want our valued customers to be informed about their water quality. The source water assessment has been completed by the Illinois EPA. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water, Susceptibility to Contamination Determination, and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.



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