



# 2012 WATER QUALITY REPORT

## Rockford Water Division

*"In this country we expect and demand safe drinking water. The City of Rockford takes pride in our achievements in improving water quality and clarity."*

*- Lawrence J. Morrissey,  
Mayor of the City of Rockford*

***Excellence Everywhere***

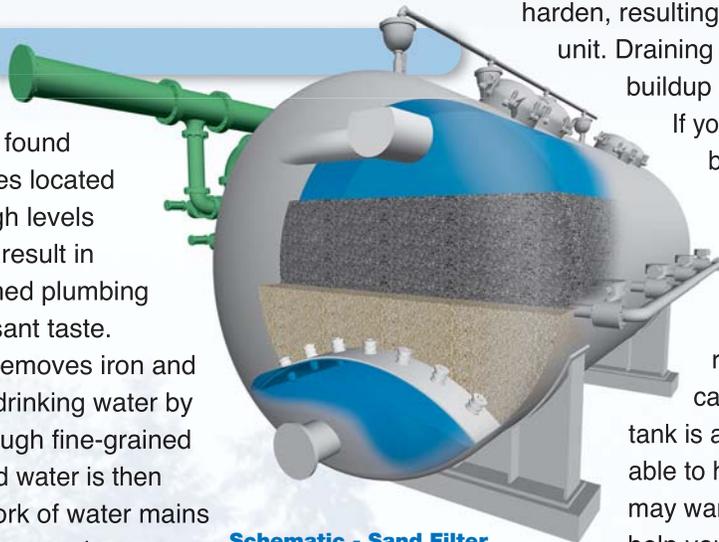
# The Rockford Water Division is pleased to provide you this Water Quality Report.

## Why did you receive this report?

The Rockford Water Division is pleased to provide this Water Quality Report. Much of the information it contains is required by the Illinois and U.S. Environmental Protection Agency. Thus, the focus of this report is Rockford's compliance with drinking water standards. Information of general interest to water customers is also included.

## Filtration

Iron and manganese are common minerals found in groundwater supplies located in northern Illinois. High levels of these minerals can result in discolored water, stained plumbing fixtures, or an unpleasant taste. The City of Rockford removes iron and manganese from the drinking water by running the water through fine-grained sand filters. The filtered water is then pumped into the network of water mains that deliver the water to your home.



Schematic - Sand Filter

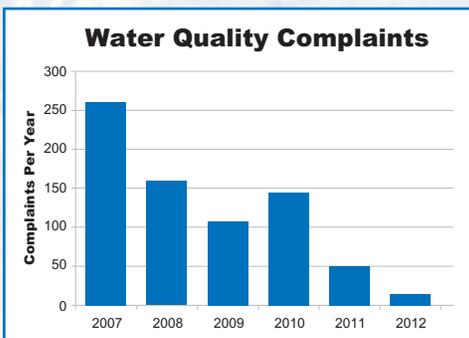
## Water Quality Improvements

Water customers receive clear tap water because iron and manganese are removed from the water. This has resulted in a decrease in water complaints by over 90%.

While filtration has dramatically improved our drinking water, customers still contact the City with water quality complaints. Most of these complaints are traced back to improperly maintained water heaters and softeners. If these common household appliances are not properly maintained by the

homeowner they will cause poor water quality.

The following recommendations may help you avoid these problems:



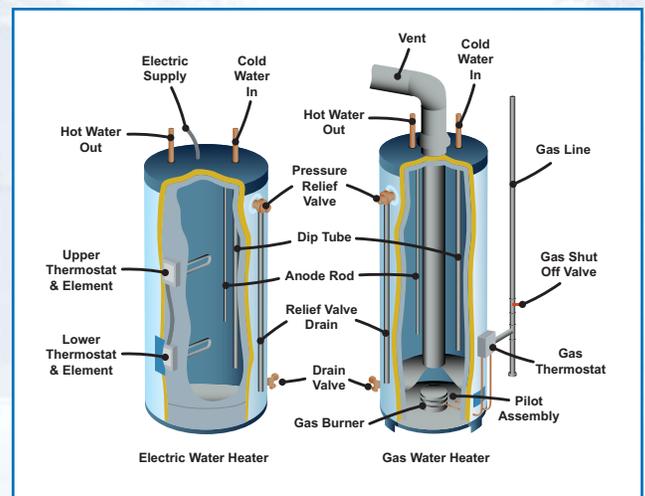
## Maintaining Water Quality in the Home

### Water Heater Maintenance

Homeowners should remember that periodic inspection and maintenance of their hot water heaters is important to keeping the unit operating at top efficiency. Over time, your heater can accumulate sediment consisting of a collection of very fine mineral deposits. The resulting buildup of sediment can harden, resulting in the reduction of the efficiency of your unit. Draining and flushing of the tank will help prevent the buildup of scale and help extend the life of the tank.

If you are noticing discolored water in your shower, bathtub, or while washing dishes, the source may be a dirty hot water heater.

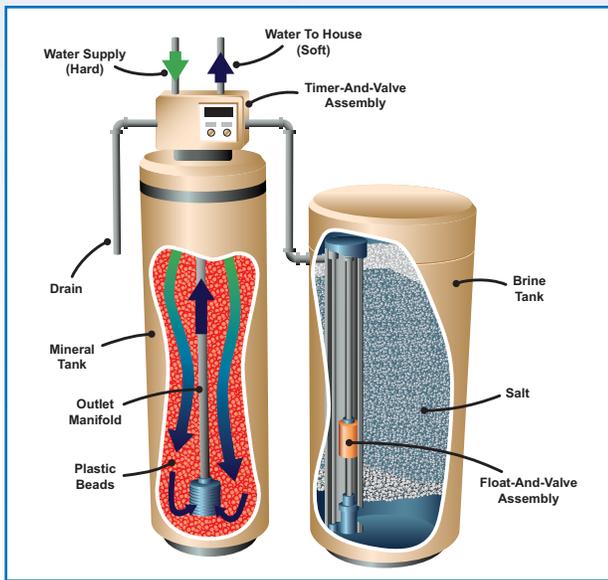
At least once a year your water heater should be drained and flushed. This is a preventative maintenance process that will remove any sediment (iron, manganese, calcium) from the water heater. Draining the tank is a fairly simple procedure that you should be able to handle, however, if you are at all unsure, you may want to consider having an experienced plumber help you with this project. You should always follow the procedure in accordance with your water heater manufacturer's manual. If this is not available, you may refer to the procedure posted on our website at: [http://rockfordil.gov/media/3076/1\\_Water\\_Heater.pdf](http://rockfordil.gov/media/3076/1_Water_Heater.pdf). If the water coming out of the water heater valve is extremely dirty, you may have to repeat the process.



### Water Softener Maintenance

Many cities in northern Illinois, have hard water. In Rockford, the hardness level runs from 19 – 22 grains per gallon. This means the water has high levels of calcium and magnesium. Hard water can adversely affect household washing and

plumbing fixtures. The most common way to reduce the hardness is with a water softener. Softened water has many advantages: improved laundry and dish washing, reduction in scale and better use of energy for heating water.



As with most appliances, there are routine maintenance tasks that should be done to keep the water softener working properly. One of those is to clean out the brine tank annually. Another is to clean the softener's resin bed of impurities. The water softener contains a brine tank to store the salt needed to generate the resin. The salt used in softeners is not pure, and over time, impurities may accumulate and bacteria may grow in the tank.

### Cleaning the Tank

Let the salt run out of the tank. Rinse the tank with a bleach solution made from one cup of 5 percent chlorine bleach to a gallon of water. Chlorine and salt can kill plants, so be sure not to dump the rinse solution on the ground where plants are growing.

### Cleaning the Resin Bed

The resin bed is in a pressure tank containing a bed of ion exchange resin beads. This is the site of the actual softening. As the water softener operates, the resin bed is exposed to dissolved minerals and metals from the water. Foreign matter can also come from the salt during the regeneration process. Precipitated minerals and organics are the most common culprits in fouling up the resin bed. After a while the resin can become clogged and not work efficiently. The resin bed should be cleaned with a chemical treatment.

There are different chemicals you can use to clean and remove unwanted contaminants. You may want to consult your softener manufacturer for guidance on the types of cleaning products available and instructions on their use. These chemicals are readily available for purchase at most hardware stores.

### Source Water

The sources of Rockford's groundwater are the shallow sand and gravel aquifer and deep bedrock aquifer. The Illinois EPA considers the source water of Rockford's water supply to be subject to contamination. This determination is based on a number of criteria including:

- Monitoring conducted at wells.
- Monitoring conducted at the entry point to the distribution system.
- Available hydrogeologic data of the wells.
- Land-use activities in the recharge area of the wells.

A Source Water Assessment Summary is available upon request. Be a good steward and help protect our ground water. Refer to our website (<http://rockfordil.gov/public-works/water-division/water-quality.aspx>) for our Groundwater Protection informational bulletins.

### 2012 Violation Summary Table:

Rule or Contaminant	Violation Type	Violation Duration
<b>RADIUM, COMBINED (226, 228)</b> Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.  Water samples showed that the amount of this contaminant in our drinking water was above its standard (called a maximum contaminant level and abbreviated MCL) for the period indicated.	MCL, AVERAGE	01/01/2012 To 3/31/2012

**As of 3/31/12, Rockford's drinking water was in full compliance with IEPA and US EPA regulations.**

### Water Information Sources

City of Rockford  
<http://www.rockfordil.gov>

Illinois Environmental Protection Agency  
<http://www.epa.state.il.us>

Illinois Department of Public Health  
<http://www.idph.state.il.us>

# 2012 Water Quality Data: Detected Contaminants

## Coliform Bacteria

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive	0.8		0	No	Naturally present in the environment

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

## Lead & Copper

Lead And Copper	Collection Date	MCLG	Action Level (AL)	90th Percentile	Number of Sites Over AL	Violation	Likely Source of Contamination
copper	09/01/2010	1.3	1.3 ppm	1.1 ppm	1	No	Erosion of natural deposits; Leaching from wood preservatives Corrosion of household plumbing systems.
Lead	09/01/2010	0 ppm	15 ppb	6.7 ppb	1	No	Corrosion of household plumbing systems; Erosion of natural deposits.

## Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
HAA5 [Total Haloaceticacids]		3	0 - 24	No goal for the total	80	ppb	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]		24	3 - 24	No goal for the total	80	ppb	No	By-product of drinking water disinfection
Chlorine	12/31/2012	0.5	0.4726 - 0.6041	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium		0.20	0.14 - 0.20	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride		0.97	0.93 - 0.97	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (As N)		4	0 - 3.6	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium		34	2 - 35			ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Zinc		0.041	0 - 0.041	5	5	ppm	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Beta/Photon Emitters	01/13/2006	7.8	7.8 - 7.8	0	4	mrem/yr	No	Decay of natural and man-made deposits
Beta/Photon Emitters	01/13/2006	7.8	7.8 - 7.8	0	50	mrem/yr	No	Decay of natural and man-made deposits
Combined Radium 226/228		3	0 - 3.9	0	5	pCi/L	Yes	Erosion of natural deposits
Gross Alpha Excluding Radon and Uranium		3	0 - 3.4	0	15	pCi/L	No	Erosion of natural deposits
Uranium	07/09/2010	4.321	4.321 - 4.321	0	30	ug/l	No	Erosion of natural deposits
Volatile Organic Contaminates	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Tetrachloroethylene		1	0 - 2.4	0	5	ppb	No	Discharge from factories and dry cleaners
1, 1, 1-Trichloroethane		9.5	0 - 9.5	200	200	ppb	No	Discharge from metal degreasing sites and other factories
Trichloroethylene		2	0 - 2.2	0	5	ppb	No	Discharge from metal degreasing sites and other factories
cis-1,2-Dichloroethylene		11	0 - 11	70	70	ppb	No	Discharge from industrial chemical factories
State Regulated Contaminants	Date	Detected	Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Iron		2	0.018 - 2.3	N/A	1.0	ppm	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Manganese		606	0 - 650	150	150	ppb	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.

### Notes For Charts:

Highest Level Detected indicates the annual running average of the analyte listed.

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.

EPA has reviewed the drinking water standard for arsenic because of special concerns that it may not be stringent enough. Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations.

## Definitions of Terms & Abbreviations Used in the Table

**MCLG:** Maximum Contamination Level Goal, or 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 Contamination Level, or 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 technology.

**AL:** Action Level, or the concentration of the contaminant which when exceeded, triggers treatment or other requirements which a water system must follow.

**n/a:** Not applicable.

**ppm:** Parts per million or milligrams per liter or one ounce in 7,350 gallons of water.

**ppb:** Parts per billion or micrograms per liter or one ounce in 7,350,000 gallons of water.

**pCi/l:** Picocuries per liter, used to measure radioactivity.

**MRDL:** Maximum Residual Disinfectant Level, or the highest level of disinfectant allowed in drinking water.

**MRDLG:** Maximum Residual Disinfectant Level Goal, or the level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.

**Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

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

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

## Information About Inorganic Contaminants

**Iron:** This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.

**Manganese:** This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.

**Sodium:** There is not a 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 your physician about this level of sodium in the water.

### The Rockford Water Division is pleased to provide you this Water Quality Report.

If, upon its review, you should have questions or concerns, please contact Nadine Miller, Water Quality Supervisor (1-815-987-5713). For other information and updates to activities at the Water Division, please visit our web site at [www.rockfordil.gov](http://www.rockfordil.gov).

## Source of Drinking Water

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Water travels over the surface of the land or through the ground. It dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pickup substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants:** includes viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants:** includes salts and metals which 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:** these come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants:** includes synthetic and volatile organic chemicals, which 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:** 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 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 EPA's Safe Drinking Water Hotline at (800) 426-4791.

In order 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. Food and Drug Administration 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 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/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 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>.

## Unidirectional Hydrant Flushing

Each spring, the Rockford Water Division conducts an annual unidirectional flushing program. This annual maintenance program runs Monday through Thursday (weather permitting) from April through October. The hydrant flushing program removes the normal mineral build-up from the pipes that deliver water to our customers.

Neighborhoods will be notified when we will be in their area by use of the Non-Emergency Notification System. Customers who currently have a listed telephone number will be contacted. If you have an unlisted number or would rather be notified via cell phone or email, you may register at <http://wincoil.us/rockfordwater>.

Notifications are also posted on the City of Rockfords web site (<http://rockfordil.gov/public-works/water-division/hydrant-flushing.aspx>).

Water is safe during flushing, but customers may notice discoloration or sediment at the water tap. Customers are advised not to use hot water until the water has cleared.



## Need help?

### Service Problems, Leaks, etc.

Customer Service Center . . . . 815-987-5700

### Water Quality

Water Production . . . . . 815-987-5736

### Billing Problems

Customer Service Center . . . . 815-987-5700

### After Hours Emergencies

Public Works . . . . . 815-987-5712



**We invite public comment about water issues. Find out more about the Rockford Water Division on the Internet at [www.rockfordil.gov](http://www.rockfordil.gov) or contact Water Quality at (815)-987-5736 or (815)-987-5701.**

**El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.**