



# Water Quality Report

## **Is my water safe?**

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of all testing performed between January 1 and December 31, 2016. We are committed to providing you with information because informed customers are our best allies.

## **Do I need to take special precautions?**

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 (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791). 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 (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

## **Where does my water come from?**

The City of Troy utilizes four active community water supply wells located in Collinsville IL. Our wells withdraw water from a depth of 80 feet below the surface from a sand and gravel aquifer. Our wells are capable of supplying 2.9 million gallons a day for the City of Troy.

## **Source water assessment and its availability**

To determine Troy's susceptibility to groundwater contamination, a well Site Survey, published in 1989 by the Illinois EPA, and a Source Water Protection Management plan were reviewed. Based on the information obtained in these documents, no potential sources of contamination are present that could pose a hazard to groundwater utilized by the Troy community water supply wells. The community's source water is susceptible to SOC contamination although detection of quantifiable levels in the water has not occurred. The source water susceptibility determination is based on the location of agricultural and non-agricultural land use within the recharge areas of the wells. However, as a result of monitoring conducted at the wells and entry point to the distribution system, the land use activities, and source water protection initiatives by the city (refer to the following section of this report), the Troy Community Water Supply's source water is not susceptible to VOC and IOC contamination. Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that Troy's community water supply wells are not vulnerable to viral contamination. This determination is based upon the completed evaluation of the following criteria used in the

Vulnerability Waiver Process, the community's wells are properly constructed with sound integrity and proper site condition; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. However, the occurrence of coliform bacteria noted in the finished water quality section of this report is a natural phenomenon in the environment and is used as an indicator that other, potentially harmful, bacteria may be present. Having stated this, the "[U.S.] EPA is proposing to require States to identify systems in karst, Gravel, and fractured rock aquifer systems as sensitive and these systems must perform routine source water monitoring". Because the community's wells are open to an unconfined sand and gravel aquifer, the Illinois EPA evaluated the well hydraulics associated with Troy's well field. The wells have approximately 70 to 95 feet of overburden (the wells are approximately 110 feet deep with the last 15 to 30 feet open to the aquifer) above the portion of the aquifer contributing a significant quantity of groundwater to the screened interval. This overburden should provide an adequate degree of filtration to prevent the movement of pathogens into the wells.

### **Why are there contaminants in my drinking water?**

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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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 Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As 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 pick up substances resulting from the presence of animals or from human activity: microbial contaminants, such as viruses and bacteria, that 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 stormwater 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 stormwater runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

### **How can I get involved?**

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the 1st and 3rd Monday of each month at 7:30 pm at City Hall, 116 East Market St. Troy, IL 62294

### **Description of Water Treatment Process**

Your water is treated by filtration and disinfection. Filtration removes particles suspended in the source water. Particles typically include clays and silts, natural organic matter, iron and manganese, and microorganisms. Your water is also treated by disinfection. Disinfection involves the addition of chlorine or other disinfectants to kill bacteria and other microorganisms (viruses, cysts, etc.) that may be in the water. Disinfection is considered to be one of the major public health advances of the 20th century.

## **Water Conservation Tips**

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference - try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Run your clothes washer and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit [www.epa.gov/watersense](http://www.epa.gov/watersense) for more information.

## **Cross Connection Control Survey**

The purpose of this survey is to determine whether a cross-connection may exist at your home or business. A cross connection is an unprotected or improper connection to a public water distribution system that may cause contamination or pollution to enter the system. We are responsible for enforcing cross-connection control regulations and insuring that no contaminants can, under any flow conditions, enter the distribution system. If you have any of the devices listed below please contact us so that we can discuss the issue, and if needed, survey your connection and assist you in isolating it if that is necessary.

- Boiler/ Radiant heater (water heaters not included)
- Underground lawn sprinkler system
- Pool or hot tub (whirlpool tubs not included)
- Additional source(s) of water on the property
- Decorative pond
- Watering trough

The contractor hired to implement and oversee Troy's backflow program is the firm of Aqua Backflow. A national firm located in Elgin, IL that specializes in cross connection control management. Aqua Backflow can be reached at 847-742-2296 with any questions. Troy's Public Works can be reached at 618-667-9924 ext 2.

The Troy Cross Connection Control Program is designed to safeguard public health. We ask for your cooperation with our program, its enforcement, and any requests for information that come from Aqua Backflow or City staff.

### Additional Information for Lead

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 Troy has no known lead service lines.** The City of Troy 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>.

## Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
<b>Disinfectants &amp; Disinfection By-Products</b>								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl <sub>2</sub> ) (ppm)	4	4	1	.8	1	2016	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	9	3.7	9.1	2016	No	By-product of drinking water disinfection.
TTHMs [Total Trihalomethanes] (ppb)	NA	80	41	27.7	43.2	2016	No	By-product of drinking water disinfection
<b>Inorganic Contaminants</b>								
Barium (ppm)	2	2	.13	.13	.13	2014	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	1.09	1.09	1.09	2015	No	Erosion of natural deposits; Water additive

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
								which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [measured as Nitrogen] (ppm)	10	10	2	1.85	1.85	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (optional) (ppm)	NA		21.4	NA		2014	No	Erosion of natural deposits; Leaching; Used in water softener regeneration.
<b>Radioactive Contaminants</b>								
Alpha emitters (pCi/L)	0	15	4.12	NA		2014	No	Erosion of natural deposits
<b>Synthetic organic contaminants including pesticides and herbicides</b>								
Di (2-ethylhexyl) phthalate (ppb)	0	6	2.62	0	2.62	2016	No	Discharge from rubber and chemical factories
Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source	
<b>Inorganic Contaminants</b>								
Copper - action level at consumer taps (ppm)	1.3	1.3	1.03	2014	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.	
<b>Inorganic Contaminants</b>								
Lead - action level at consumer taps (ppb)	0	15	1.8	2014	1	No	Corrosion of household plumbing systems; Erosion of natural deposits	

## Additional Monitoring

As part of an on-going evaluation program the EPA has required us to monitor some additional contaminants/chemicals. Information collected through the monitoring of these contaminants/chemicals will help to ensure that future decisions on drinking water standards are based on sound science.

Name	Reported Level	Range	
		Low	High
chromium (total chromium) (ppb)	.9	.9	.9
chromium-6 (hexavalent chromium) (ppb)	.91	.91	.91
molybdenum (ppb)	1	1	1
strontium (ppb)	202.6	202.6	202.6
vanadium (ppb)	1.3	1.3	1.3

Unit Descriptions	
Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: Not detected

**Unit Descriptions**

NR	NR: Monitoring not required, but recommended.
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**Important Drinking Water Definitions**

Term	Definition
MCLG	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	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	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	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	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	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	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	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

**For more information please contact:**

Robert Hancock, Director of Public Works

116 E. Market St.

Troy, IL 62294

618-667-9924 ext. 2