

# **Annual Drinking Water Quality Report**

**Mitchell PWD**

**IL1195210**

**Annual Water quality Report for the period of January 1 to December 31, 2017**

**This report is intended to provide you with important information about your drinking water and the effects made by the Water system to provide safe drinking water.**

**The source of drinking water used by MITCHELL PWD is Purchased Surface Water**

**For more information regarding this report contact: Charles (Ed) Futch, 618-931-0164.**

**Este informe contiene informacion muy importante sobre el agua que usted bebe.**

**Traduzcalo o hable con alguien que lo entienda bien.**

## **Source of Drinking Water:**

**The sources of drinking water (both tap water and bottled water) includes 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.**

**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 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 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 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 EPA's Safe Drinking Water Hotline at (800) 426-4791. In order to ensure that tap water is safe to drink, EPA 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 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 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>.

### Source Water Information

Source Water Name	Type of Water	Report Status	Location
CC 01-MASTER METER 1 FF IL1195030 TP02	SW	_____	N OF INT BREMAN AVE IN GRANITE CITY
CC 02-MASTER METER 2 FF IL1195030 TP02	SW	_____	N OF INTER ST.THOMAS
CC 04-MASTER METER 3 FF IL1195030 TP02	SW	_____	ADJ TO FLYING J TRUCK STOP

## Source Water Assessment

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled meetings. MPWD meetings are held the third Thursday of each month at 745 E. Chain of Rocks Rd, Granite City IL 62040 (5:00pm). The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by Mitchell Public Water District office hours are from 7:00am til 3:30 pm or call the District Manager Charles E Futch at 618-931-0164 for a copy to be mailed. 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 EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Source of Water: IL AMERICAN-GRANITE CITY 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 Mississippi River Watershed, which is illustrated in Figure 3, 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 surface water intakes. In addition, agricultural runoff within the Illinois portion of the Mississippi River Basin contributes to the susceptibility of the IAWC-Granite City intakes. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the IAWC-Granite City intake was determined using data from a joint U.S. Environmental Protection Agency/U.S. Geological Survey project. This project used a computer modeling program (SPARROW) to determine travel times on major rivers in the United States. Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials. Analysis of reported spills indicate that between 1974 and 1989, 794 accidental spills of hazardous materials occurred along Illinois waterways. Approximately 92% of these spills occurred along the Mississippi and/or the Illinois River. Figure 2 shows the critical area of concern (Zone 1) For the IAWC-Granite City surface water intake. Spills occurring in this critical area will travel to the intake in five hours or less, making contingency planning and spill reporting a major concern in this watershed. Information concerning spill response planning on the Mississippi River may be found at the U. S. EPA website [www.epa.gov/region5/oil](http://www.epa.gov/region5/oil), and additional data can also be downloaded at the U. S. Geological Survey's FTP site [ftp://ftp.umesc.er.usgs.gov/pub/gis\\_data/oil\\_spill](ftp://ftp.umesc.er.usgs.gov/pub/gis_data/oil_spill).

## 2017 Regulated Contaminants Detected

### Lead and Copper

Definitions:

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.

Lead and Copper	Date sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites over AL	Units	Violations	Likely Source of Contamination
Copper	2017	1.3	1.3	0.189	0	ppm	N	Erosion of natural deposits: Leaching from wood preservatives; Corrosion of household plumbing systems.

### Water Quality Test Results

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation

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

**Level 1 Assessment:** A level 1 assessment is a study of the user system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment:** A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**Maximum Contaminant Level or MCL:** 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.

**Maximum Contaminant Level Goal or 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 residual disinfectant level or MRDL:** 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 contaminan.

**Maximum residual disinfectant level goal or MRDLG:** 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.

**na:** not applicable

**mrem:** millirems per year (a measure of radiation absorbed by the body)

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

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

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

### Regulated Contaminants

<u>Disinfectants and Disinfection By-Products</u>	<u>Collection Date</u>	<u>Highest Level</u>	<u>Range of Levels</u>	<u>MCLG</u>	<u>MCL</u>	<u>Units</u>	<u>Violation</u>	<u>Likely Source of Contamination</u>
		<u>Detected</u>	<u>Detected</u>					
Chlorine	12/31/2017	1.9	1 – 2.4	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5) <u>disinfection</u>	2017	24	17.9 – 33.4	No goal for	60	ppb	N	By-product of drinking water
					<u>the total</u>			
Total Trihalomethanes (TTHM)	2017	47	24.4 – 76.2	No goal for	80	ppb	N	By-product of drinking water disinfection
					<u>the total</u>			



2017 Annual

# Water Quality Report

Granite City District  
PWS ID: IL1195030



## Source Water Information

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. The Granite City Water Treatment Facility draws surface water for treatment from the Mississippi River. The Mississippi River is subject to a variety of influences including agricultural, municipal, and industrial activities. Farm chemicals may be seasonally elevated in the river. Extensive monitoring and treatment ensure high-quality water service regardless of variations in the source water.

Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials. Analysis of reported spills indicate that between 1974 and 1989, 794 accidental spills of hazardous materials occurred along Illinois waterways. Approximately 92% of these spills occurred along the Mississippi and/or the Illinois River. Spills occurring in this critical area will travel to the intake in five hours or less, making contingency planning and spill reporting a major concern in this watershed. Information concerning spill response planning on the Mississippi River may be found at the U. S. EPA website [www.epa.gov/region5/oil](http://www.epa.gov/region5/oil), and additional data can also be downloaded at the U. S. Geological Survey's FTP site [ftp://ftp.umesc.er.usgs.gov/pub/gis\\_data/oil\\_spill](ftp://ftp.umesc.er.usgs.gov/pub/gis_data/oil_spill).

The Illinois Environmental Protection Agency (IEPA) has completed a source water assessment for the Granite City system and a copy is available upon request by contact Ian Rischmiller, Water Quality Supervisor, at [ian.rischmiller@amwater.com](mailto:ian.rischmiller@amwater.com) or 309-208-0196. The Granite City distribution system also has an interconnection with Illinois American Water's East St. Louis (PWSID 1635040) distribution system. Water is routinely supplied to the Granite City distribution system through that connection. 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 EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

## Partnership for Safe Drinking Water Program

Illinois American Water's Granite City District is a volunteer participant in the USEPA's Partnership For Safe Water, a national program designed to achieve operational excellence in water treatment. In 2017 the Granite City facility was awarded the prestigious Fifteen Year Director's Award under the Partnership for Safe Water program. The award honors water utilities for achieving operational excellence, by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water standards. We are proud to report that we have maintained those standards throughout 2017.



## Cryptosporidium

*Cryptosporidium* is a protozoan found in untreated surface waters throughout the United States (the organism is generally not present in a ground water source). Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it is spread through means other than drinking water.

USEPA issued a new rule in 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. In 2017, our monitoring of the Mississippi River raw untreated water indicated the presence of this

organism. The Mississippi River cryptosporidium levels at our Granite City raw water source ranged from not detected to 0.098 oocysts/L, with an average of 0.063 oocysts/L. The Mississippi River cryptosporidium levels at our East St. Louis raw water source ranged from not detected to 0.091 oocysts/L, with an average of 0.03 oocysts/L. Although this organism is present, it is at levels low enough that no supplemental treatment is required by our facility per USEPA standards.

## Important Health Information

Drinking water, 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 contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/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 800-426-4791.

## 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. Illinois American Water 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 Read the Data Tables

Illinois American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the data tables. While most monitoring was conducted in 2017, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting these tables, see the "Table Definitions" section and footnotes.

## Table Definitions and Abbreviations

- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Compliance Achieved:** Indicates that the levels found were all within the allowable levels as determined by the USEPA.
- **Highest Level Detected:** In most cases this column is the highest detected level unless compliance is calculated on a Running Annual Average or Locational Running Annual Average. If multiple entry points exist, the data from the entry point with the highest value is reported.
- **Level 1 Assessment:** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment:** A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
- **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.
- **MRDL (Maximum Residual Disinfectant Level):** The highest level of disinfectant routinely allowed in drinking water. Addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG (Maximum Residual Disinfectant Level Goal):** The level of 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 contamination.
- **NA:** Not applicable
- **ND:** Not detectable at testing limits
- **pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.
- **Range Of Detections:** The range of individual sample results, from lowest to highest, that were collected during the sample period.

## 2017 Water Quality Information

We are pleased to report that during the past year, the water delivered to your home or business complied with, or was better than, all state and federal drinking water requirements.

For your information, we have compiled a table showing what substances were detected in your drinking water during 2017. Although all of the substances listed are under the Maximum Contaminant Level (MCL) set by the U.S. Environmental Protection Agency (USEPA), we feel it is important that you know exactly what was detected and how much of the substance was present in your water

## Water Quality Results

### Illinois American Water – Granite City Facility

#### 2017 Regulated Substances Detected – Measured in the water leaving the treatment facility

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Fluoride <sup>4</sup>	2017	0.8	0.76 - 0.76	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen) <sup>5</sup>	2017	5	4.57 – 4.57	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium <sup>6</sup>	2017	17	17.2 – 17.2	N/A	N/A	ppm	No	Erosion from naturally occurring deposits: Used in water softener regeneration.

<sup>4</sup> Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends a fluoride level of 0.7 mg/L.

<sup>5</sup> Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you, should ask advice from your health care provider.

<sup>6</sup> 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.

Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Carbon Tetrachloride	2017	0.5	ND - 0.5	0	5	ug/L	No	Discharge from chemical plants and other industrial activities

Turbidity				
	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Lowest Monthly % Meeting Limit	0.3 NTU	100%	No	Soil Runoff
Highest Single Measurement	1 NTU	0.16 NTU	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of the effectiveness of our filtration system, water quality, and disinfectants. The treatment technique requires that at least 95% of routine samples are less than or equal to 0.3 NTU, and no sample exceeds 1 NTU. We are reporting the percentage of all readings meeting the standard of 0.3 NTU, plus the single highest reading for the year.

Total Organic Carbon
The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA. TOC has no health effects but contributes to the formation of disinfection by-products. Reduction of TOC can help to minimize disinfection by-product formation.

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.

# Water Quality Results

## Illinois American Water – East St. Louis Facility

### 2017 Regulated Substances Detected – Measured in the water leaving the treatment facility

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2017	1	0 - 1	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Fluoride <sup>4</sup>	2017	0.7	0.67 - 0.75	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen) <sup>5</sup>	2017	5	1.29 - 5.16	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium <sup>6</sup>	2017	18	16.7 - 17.9	N/A	N/A	ppm	No	Erosion from naturally occurring deposits: Used in water softener regeneration.

4 Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends a fluoride level of 0.7 mg/L.

5 Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you, should ask advice from your health care provider.

6 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.

Radiological Contaminants								
	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	2014	0.9	0.9 - 0.9	0	5	pCi/L	No	Erosion of natural deposits.
Gross Alpha emitters	2014	1.5	1.5 - 1.5	0	15	pCi/L	No	Erosion of natural deposits.
Beta/Photon emitters <sup>7</sup>	2014	4.4 pCi/L	4.4 - 4.4 pCi/L	0	4	mrem/y	No	Erosion of natural deposits.

7 The MCL for Beta/photon emitters is written as 4 millirem/year (measure of rate of radiation absorbed by the body). Laboratory results are reported in pCi/L as we have on the table above. EPA considers 50 pCi/L as the level of concern for beta emitters.

Turbidity				
	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Lowest Monthly % Meeting Limit	0.3 NTU	100%	No	Soil Runoff
Highest Single Measurement	1 NTU	0.21 NTU	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of the effectiveness of our filtration system, water quality, and disinfectants. The treatment technique requires that at least 95% of routine samples are less than or equal to 0.3 NTU, and no sample exceeds 1 NTU. We are reporting the percentage of all readings meeting the standard of 0.3 NTU, plus the single highest reading for the year.

Total Organic Carbon
The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA. TOC has no health effects but contributes to the formation of disinfection by-products. Reduction of TOC can help to minimize disinfection by-product formation.

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.