



# Annual Drinking Water Quality Report for Calendar Year 2017

## SUGAR GROVE

**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. This report includes drinking water facts, information on violations (if applicable), and contaminants detected in your drinking water supply during calendar year 2017. Each year, we will provide you a new report. If you need help understanding this report or have general questions, please contact the person listed below.**

*Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.*

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### **Sources of Drinking Water**

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

The source of drinking water used by Sugar Grove is groundwater. The Village of Sugar Grove (Facility #0890850) has eight active community water supply wells. Wells #2, #4, #5, #7, #8, #9, #10 and #11 (Illinois EPA #20108, #20110, #20088, #00737, #01400, #01473, #01678 and #01679 respectively) supply approximately 1 million gallons per day to 3,900 services (a population of approximately 10,000 individuals). Wells #2, #5 and #7 are shallow wells. Well #4 is a deep well and Wells #8, #9, #10 and #11 are deep wells with ion exchange treatment facilities.

### **Community Participation**

Village board meetings are held on the first and third Tuesday of each month beginning at 6:00 PM at Village Hall, 10 Municipal Drive, Sugar Grove, Illinois.

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 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 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.

### **Other Facts about 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 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).

**Source Water Assessments**

Source water protection (SWP) is a proactive approach to protecting our critical sources of public water supply and assuring that the best source of water is being utilized to serve the public. It involves implementation of pollution prevention practices to protect the water quality in a watershed or wellhead protection area serving a public water supply. Along with treatment, it establishes a multi-barrier approach to assuring clean and safe drinking water to the citizens of Illinois. The Illinois EPA has implemented a source water assessment program (SWAP) to assist with wellhead and watershed protection of public drinking water supplies.

To determine Sugar Grove’s susceptibility to groundwater contamination, the following documents were reviewed: a Well Site Survey, published in 1989 by the Illinois EPA; and a Source Water Protection Plan prepared for the Village of Sugar Grove by Engineering Enterprises, Inc., published in March of 2000.

Our community’s source water has low susceptibility to VOC and SOC contamination. The basis for this determination included no detection of any quantifiable levels of VOCs or SOCs in the finished water and no potential sources of VOCs or agricultural land use within the recharge areas. Also, 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 village, the Sugar Grove community water supply’s source water has a low susceptibility to IOC contamination. Furthermore, in anticipation of the U.S. EPA’s proposed Ground Water Rule, the Illinois EPA has determined that Sugar Grove’s community water supply wells have a low susceptibility to viral contamination.

If you would like a copy the Source Water Assessment Program, please call the Public Works Department at (630) 391-7231.

**Continuing Our Commitment**

Once again we proudly present our annual water quality report. This edition covers all testing completed from January 1, 2017 through December 31, 2017. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

**2017 Regulated Contaminants Detected**

The next several tables summarize contaminants detected in your drinking water supply.

Here are a few definitions and scientific terms which will help you understand the information in the contaminant detection tables.

AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Avg	Regulatory compliance with some MCLs is based on running annual average of monthly samples.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal 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 allowed in drinking water.
MRDLG	Maximum Residual Disinfectant Level Goal: 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.
N/A	Not Applicable
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter ( a measure of radioactivity)
ppb	Parts per billion or micrograms per liter (ug/L) - or one ounce in 7,350,000 gallons of water.
ppm	Parts per million or milligrams per liter (mg/L) - or one ounce in 7,350 gallons of water.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

Coliform Bacteria	MCLG	Total Coliform MCL	Highest Number of Positive Samples	Fecal Coliform or <i>E. coli</i> MCL	Total No. of Positive <i>E. coli</i> or Fecal Coliform Samples	Violation	Likely Source of Contamination
	0	MCL: presence of coliform bacteria in > 5% of monthly samples (for systems that collect 40 or more samples/month). > 1 positive monthly sample (for systems that collect < 40 samples/month).		Fecal Coliform or <i>E. coli</i> MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive			Naturally present in the environment

Lead and Copper		Date Sampled	MCLG	Action Level (AL)	90 <sup>th</sup> Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	06/2017	1.3	1.3	1.7	6	ppm	N	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	
Lead	06/2017	0	15	1.8	1	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits.	

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. Sugar Grove 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>.

Disinfectants & Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2017	1.1	0.31 - 2	MRDLG=4	MRDL=4	ppm	N	Water additive used to control microbes
Halocetic Acids (HAA5)	2016	2	0-2.34	No goal for the total	60	ppb	N	By-product of drinking water disinfection
Total Trihalomethanes	2017	9	6.07 - 9	No goal for the total	80	ppb	N	By-product of drinking water disinfection
<b>Inorganic Contaminants</b>								
Barium	7/20/2016	0.033	0.033-0.033	2	2	ppm	N	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Fluoride	7/20/2016	0.644	0.644-0.644	4	4.0	ppm	N	Erosion of natural deposits, Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Iron	2017	2.8	0.038 – 2.7		1.0	ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of Natural deposits.
Manganese	2017	183	0 - 210	150	150	ppb	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of Natural deposits
Nitrate	2017	2	0 – 2.2	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium	07/20/2016	150	150-150			ppm	N	Erosion from naturally occurring deposits; Used in water softer regenerations.
Zinc	2016	0.0088	0.0088	5	5	ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Naturally occurring; discharge from metal.
<b>Synthetic Organic Contaminants (pesticides and herbicides)</b>								
<b>Volatile Organic Contaminants</b>								
<b>Radiological Contaminants</b>								

Combined Radium 226/228	2017	4	0.613 – 10.75	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding Radon and uranium	2017	12	0 – 11.5	0	15	pCi/L	N	Erosion of natural deposits.
Uranium	06/28/2011	0.13708	0.0149-0.13708	0	30	Ug/l	N	Erosion of natural deposits.
<b>State Regulated Contaminants</b>								

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.

<b>Turbidity</b>	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.							
	<b>Limit (Treatment Technique)</b>	<b>Level Detected</b>	<b>Violation</b>	<b>Likely Source of Contamination</b>				
<b>Lowest Monthly % Meeting Limit</b>	0.3 NTU			Soil Runoff				
<b>Highest Single Measurement</b>	1 NTU			Soil Runoff				

<b>Total Organic Carbon</b>	The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA, unless a TOC violation is noted in the violation section.							
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**Violation Summary Table**

We are happy to announce that no monitoring, reporting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during 2017.

**Data Table Description**

**Sampling Results**

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of the substance do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

**Important Health Information**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. The U.S. EPA/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 (800) 426-4791 or [www.epa.gov/safewater/hotline/](http://www.epa.gov/safewater/hotline/).

**Treatment Train Description**

**How Is My Water Treated and Purified?**

The Village of Sugar Grove currently pumps water from three shallow wells and five deep wells. Chlorine is added to the Village of Sugar Grove’s water system to prevent bacterial contamination. In addition, fluoride is added to help promote healthy teeth. In 2008, the village completed construction of its third ion exchange water treatment facility. Ion exchange is a simple chemical process in which the source water is passed through a resin (natural zeolite bed or manufactured synthetic resin) to replace the positively charged ions in the water with ions of similar charge fixed to the resin matrix. Hardness, radium and other polyvalent cations are removed from the water by exchanging hardness and radium ions for sodium ions contained in the resin. When the resin is exhausted, the regeneration process replaces the calcium, magnesium, radium and any other ions in the resin with sodium ion in the brine solution. The resin is then rinsed and the spent brine solution is discharged to the sanitary sewer system.

**Vulnerability Waiver**

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Due to favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal. No monitoring for VOCs and SOCs is required between January 1, 2008, and December 31, 2010.

### **Contamination from Cross-Connections**

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test each backflow preventer to make sure that it is providing maximum protection.

For more information, review the Cross-Connection Control Manual from the U.S. EPA's website at [www.epa.gov/safewater/crossconnection.html](http://www.epa.gov/safewater/crossconnection.html). You can also call the Safe Drinking Water Hotline at (800) 426-4791.

### **Water Conservation Tips**

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill. Here are a few suggestions:

Conservation measures you can use inside your home include:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.

You can conserve outdoors as well:

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Repair leaks in faucets and hoses.

Information on other ways that you can help conserve water can be found at [www.epa.gov/safewater/publicoutreach/index.html](http://www.epa.gov/safewater/publicoutreach/index.html)