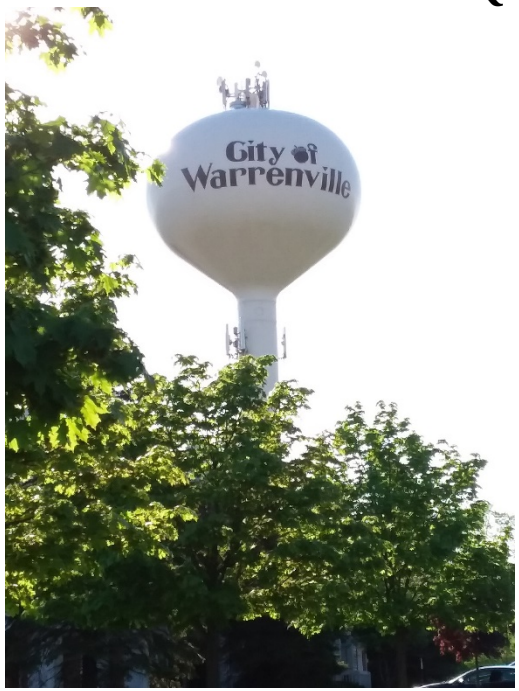
2019 Water Quality Report – Sample Results for Calendar Year 2018



The City of Warrenville has developed and published this report, as per the requirements of the *Federal Safe Drinking Water Act*, to inform our customers as to the source and safety of Warrenville's drinking water.

This year, as in years past, Warrenville tap water met all United States Environmental Protection Act (USEPA) drinking water health standards. **The City vigilantly safeguards the system and groundwater supply and had no violation of a contaminant level, or of any other water quality standard, in 2018.** This report summarizes the quality of water provided last year, including details about the water source, what is contained in the water, and how it compares to standards set by regulatory agencies.

If you have any questions concerning this report, or concerning Warrenville's water system, please contact John Satter, Utility Division Supervisor, at 630-836-3051, Monday through Friday, 7:00 am to 3:00 pm. A Committee of the Whole meeting, concerning Public Works and Infrastructure issues, is held bi-monthly at 7:00 pm, in City Hall Council Chambers, located at 28W701 Stafford Place, Warrenville, Illinois. Meetings are posted on the bulletin boards inside both main entrances to the City Hall, and also online at http://www.warrenville.il.us/Calendar.aspx?NID=1&FID=240. You can call City Hall at 630-393-9427 to obtain the meeting dates. Water issues are discussed in open forums on an "as needed" basis.

The City uses groundwater provided by five wells drilled into the Silurian–Devonian aquifer. An aquifer is a geological formation that contains water. The wells are drilled to an average depth of 300 feet. The location of the wells are as follows: Well 8 is located at 29W523 Batavia Road, Well 9 is located at 27W601 Warrenville Road, Well 10 is located at 30W194 Batavia Road, Well 11 is located at 4S255 River Road, and Well 12 is located at 3S004 Timber Drive.

Warrenville homes normally receive a mixture of water from Wells 9, 10, 11, and 12 that utilize iron removal equipment in the production process, thus removing iron from the water before it enters the distribution system. The City has implemented a corrosion control program that uses blended phosphates to coat the interior pipe lining. Chlorine is added for disinfection and Fluoride is added to help promote oral health.

A source-water assessment conducted by the Illinois Environmental Protection Agency (IEPA) indicated the ground water is not vulnerable to any contaminants. The assessment is available for public viewing at the City Hall, or on line at http://il-warrenville.civicplus.com/DocumentCenter/View/2141.

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. 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).

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 Safe Drinking Water Hotline at 1-800-426-4791, or http:///www.epa.gov/safewater.

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 line and home plumbing. The City cannot control the variety of materials used in plumbing components.

When water has been sitting in the pipes for several hours, it is possible to 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 can 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.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, and wells. All of Warrenville's tap water is obtained from wells. As water travels over the surface, or through the ground, it can dissolve naturally occurring minerals and pick up substances resulting from the presence of animal or human activity. Possible contaminants consist of: **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 runoff, industrial or domestic wastewater discharges, oil and gas production, or farming; **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water, 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 may be naturally occurring.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water supplies. Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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

Definitions and Abbreviations

Definitions

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

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 water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in a 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 E. coli MCL violation has occurred and/or why total coliform bacteria have been found in a water system on multiple occasions.

MCL: Maximum Contaminant Level, or 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, 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.

MRDL: Maximum residual disinfectant level. The highest level of disinfectant allowed in the water.

MRDLG: Maximum residual disinfectant level goal.

Abbreviations

BETA/PHOTON EMITTERS: The MCL for beta particles is 4 millirems/year. EPA considers 50 pCi/l to be a level of concern for Beta particles.
DF: Dilution factor.
FLUORIDE: Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride Level of 0.6 To 0.8 ppm.
MREM: Millirems per year (a measure of radiation absorbed by the body).
MFL: Million fibers per liter, used to measure asbestos concentration.
N/A: Not applicable.
ND: Not detectable at testing limits.
NITRATE: Nitrates in drinking water at levels above 10 ppm are a health risk for infants less than six 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 consult your health care provider.
NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.
PCI/L: Picocuries per liter, used to measure radioactivity
PPM: Parts per million or milligrams per liter.
PPB: Parts per billion or micrograms per liter.
RDL: Report detection limit.
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 the level is greater than 20 mg/l, and you are on a sodium restricted diet, you should consult your health care provider.

The **"Range of Detections"** column represents a range of individual sample results, from lowest to highest, that were collected during the CCR calendar year.
Treatment Technique or TT – A required process intended to reduce the level of a contaminant in drinking water.

Unregulated UCMR 3 Health Risks

1, 4-DIOXANE: EPA currently identifies dioxane as "likely to be carcinogenic to humans." This finding is based primarily on toxicology studies conducted using rodents. EPA's most recent analysis, completed in 2010, concluded that at a concentration of 0.35 parts per billion (ppb) over a lifetime exposure to Dioxane may lead to negative health effects.

MOLYBDENUM: Exposure to molybdenum, naturally occurring in food and water at low levels, is not known to be harmful.

STRONTIUM: The risk posed by strontium depends on the concentration ingested and on the exposure conditions. The EPA's current reference concentration indicates that ongoing exposure to strontium at levels of more than 4000 parts per billion (ppb), per day, may lead to negative health effects. There is no evidence that drinking water with trace amounts of naturally-occurring strontium is harmful. However, exposure to high levels of naturally-occurring strontium during infancy and childhood can affect bone growth and cause dental changes, and there is some evidence that strontium increases bone density in adults.

2018 Water Quality Data

Note: The state requires monitoring for certain contaminants less than once per year as concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

Lead and Copper Likely source of contamination is from corrosion of household plumbing. Samples of the wells have not indicated any traces of lead or copper in the water supply.

Lead & Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Violation	Likely Source of Contamination
Copper	09/08/2017	1.3 ppm	1.3 ppm	.387 ppm	0	NO	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing.
Lead	09/08/2017	0 ppb	15 ppb	4.67 ppb	0	NO	Corrosion of household plumbing systems; Erosion of natural deposits.

National Secondary Standards – Non-enforceable guidelines regulating contaminants that may cause cosmetic effects or aesthetic effects in drinking water. USEPA recommends secondary standards to water systems but does not require systems to comply.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation	Likely Source of Contamination
Sulfate	11/20/2018	247	103 - 247	ppm	N/A	250	NO	Erosion of natural deposits
Total Dissolved Solids	8/29/2018	918	748 -918	ppm	N/A	500	NO	Erosion of Natural deposits

Regulated Contaminants

Note: For each location sampled (in most cases, each active entry point), a quarterly average is calculated using all routine/confirmation samples collected during the quarter. Next, an annual average is calculated for each location by adding the quarterly averages and dividing by four. The location sampled with the highest annual average is used in the table.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation	Likely Source of Contamination
Barium	2018	0.147	.0666-.147	ppm	2	2	NO	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2018	.56	.34-.56	ppm	4	4	NO	Erosion of naturally occurring deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

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Regulated Contaminants Continued

Arsenic	2015	.805	.0 - .805	ppb	0	10	NO	Erosion of natural deposits; Runoff from orchards, glass, and electronics production wastes.
Iron	2018	.365	0 - .365	ppm		1.0	NO	This contaminant is not regulated by the USEPA but is regulated by the State. Erosion of natural occurring deposits.
Selenium	2018	2.27	0 - 2.27	ppb	50	50	NO	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Sodium	2018	86	28.8 - 86	ppm			NO	Erosion from naturally occurring deposits; Used in water softener regeneration. 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.
Radioactive Contaminants	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Unit of Measurement**	**MCLG**	**MCL**	**Violation**	**Likely Source of Contamination**
Combined Radium	10/23/2017	3.21	3.21 - 3.21	PCI/L	0	5	NO	Erosion of natural deposits.
Gross Alpha excluding radon and uranium	10/23/2017	.97	.97 - .97	PCI/L	0	15	NO	Erosion of natural deposits.
Disinfectants & Disinfections Byproducts	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Unit of Measurement**	**MCLG**	**MCL**	**Violation**	**Likely Source of Contamination**
Total Halo acetic Acids (HAA5)	2018	9.43	1.7 – 9.43	ppb	No goal for total	60	NO	By-product of drinking water chlorination.
Chlorine	12/31/18	2.3	2 - 2.3	ppm	MRDLG=4	MRDLG=4	NO	Water additive to control microbes.
Total Trihalomethanes	2018	2.64	1.25 – 2.64	ppb	No goal for total	80	NO	By product of drinking water disinfection.
Synthetic organic contaminants including pesticides and herbicides	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**Unit of Measurement**	**MCLG**	**MCL**	**Violation**	**Likely Source of Contamination**
Benzo(A)pyrene	11/17/2015	.104	0 -.104	ppb	Zero	.2	NO	Leaching from linings of water storage tanks and distribution lines.

Unregulated Contaminants UCMR 3

Name of Compound	Collection Date	Highest Level Detected	Range of Levels Detected	Unit of Measurement	RDL	DF	Likely Source of contamination
Molybdenum	12/16/2013	12	4.3 - 12	ppb	1	1	Molybdenum is a naturally-occurring metal that can be found in small amounts in rocks and soil. It is also present in plants, animals, and bacteria. Molybdenum is most commonly used in the production of structural steel, stainless steel, cast iron, and other alloys.
Strontium	12/16/2013	2147.8	576 – 2147.8	ppb	3	10	Strontium occurs naturally in the environment. Air, dust, soil, foods, and drinking water all contain small amounts of strontium. Ingestion of small amounts of strontium is not harmful. However, high levels of strontium can occur in water drawn from bedrock aquifers that are rich in strontium minerals.
1,4-Dioxane	12/16/2013	.13	.12 - .13	ppb	0.07	1	1,4-dioxane is a colorless, flammable liquid often used as a solvent or solvent stabilizer. It is a synthetic organic compound, meaning it does not occur naturally in the environment. Dioxane is used as a solvent, cleaning agent, chemical stabilizer, surface coating, adhesive agent, and an ingredient in chemical manufacturing.

A maximum contaminant level (MCL) for these contaminants has not been established by either state or federal regulations, nor has mandatory health effects language been set. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.