

2016 Annual Water Quality Report

VILLAGE OF OSWEGO

2016 Annual Water Quality Report

In 2016, as in years past, your tap water was tested according to USEPA and state drinking water health standards. Our system vigilantly safeguards its groundwater supply, and we are working hard to continue providing the best water possible. This report summarizes the quality of water that we provided last year and informs you of the problems we are working on overcoming. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with information because informed customers are our best allies.

If you have any questions about this report or concerning your water system, please contact Jennifer Hughes, Public Works Director at 630-554-3242. 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 board meetings the first and third Tuesday of each month at 7:00 p.m. in the Village Hall, 100 Parkers Mill.

Oswego uses groundwater provided by eight wells. All wells are considered deep wells, and draw water from a sandstone aquifer. While these aquifers provide a high quality of water and excellent potential for meeting the water demands of their consumers, these wells often contain elevated concentrations of Radium-226 and Radium-228. The Village of Oswego is utilizing a new process for radium removal. The water from each of the Village's current eight, high-capacity, deep wells contains naturally occurring radium as do many deep wells in northern Illinois. The radium level at each well is below the Environmental Protection Agency's (EPA) maximum allowable level of 5 picocuries per liter (pCi/L).

The water from all eight of Oswego's wells is treated with a polyphosphate to suspend particles in the water. The water is also chlorinated to kill any bacteria that may be present. With pulling water from a deep aquifer, the water itself has enough fluoride in it so Oswego does not have to add any. Oswego's Well No. 3 is located on Madison Street by the village center's 500,000-gallon water tower. This is a 950-gallon per minute well and the water is chlorinated, treated and delivered into the system. Oswego's Well No. 4 is located on Chicago Road by the car wash. This is a 800-gallon per minute well and the water is chlorinated, treated and delivered into the system. Oswego's Well No. 6 is located in the Fox Chase subdivision next to the 300,000-gallon water tower. This is a 1000-gallon per minute well and the water is chlorinated, treated and delivered into the system. Oswego's Well No. 7 is in the Ogden Falls subdivision next to the 1.5 million gallon water tower. This well produces 1100 gallons per minute and the water is chlorinated, treated and delivered into the system.

Well No. 8 is located on Grove Road ¼ mile south of Plainfield Road. This well produces 1100 gallons per minute and the water is chlorinated, treated and delivered into the system. Well #9 is located at 700 Yoakum Blvd. This well produces 1000 gallons per minute and water is chlorinated, treated and delivered into the system. Well No. 10 is located at 700 Cole Avenue. This well produces 1000 gallons per minute and water is chlorinated, treated and delivered into the system. Well No. 11 went on line in February 2010 and is located at 6701 Tuscan Trail off of Orchard Road. This is a 1000 gallons per minute well and the water is chlorinated, treated and delivered into the system.

Due to favorable monitoring history, aquifer characteristics, and inventory of potential sources of contamination, our water supply was issued a vulnerability waiver renewal for Wells No. 3, 4, 6, 7, 8, 9 & 10. Well No. 11 has no waivers issues as of yet.

In addition to the informational section of the Water Quality Report, we have included for your review a table. This table will give you a better picture of the contaminants that were detected in your water.

■ Annual Drinking Water Quality Report

OSWEGO IL0930150

Annual Water Quality Report for the period of January 1 to December 31, 2016

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.

The source of drinking water used by OSWEGO is Ground Water

For more information regarding this report contact:

Jennifer Hughes, Public Works Director - 630-554-3242




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■ Source of Drinking Water

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.

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.

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 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 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. 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 City Hall or call our water operator at 630-554-3242. 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: OSWEGO Based on information obtained in a Well Site Survey, published in 1989 by the Illinois EPA, six potential sources or possible problem sites were identified within the survey area of Oswego's wells. Furthermore, information provided by the Leaking Underground Storage Tank Section of the Illinois EPA indicated several additional sites with ongoing remediations which may be of concern. The Illinois EPA has determined that the Oswego Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells. Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that the Oswego Community Water Supply is not vulnerable to viral contamination. This determination is based upon the completed evaluation of the following criteria during the Vulnerability Waiver Process: the community's wells are properly constructed with sound integrity and proper site conditions; a hydrogeologic barrier exists which prevents pathogen movement; 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. Because the community's wells are constructed in a confined aquifer, which should prevent the movement of pathogens into the wells, well hydraulics were not considered to be a significant factor in the susceptibility determination. Hence, well hydraulics were not evaluated for this groundwater supply.



2016 Annual Water Quality Report

■ 2016 Regulated Contaminants Detected

Maximum Contaminant Level Goal	Total Coliform Maximum Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Containment Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	1 positive monthly sample.	2		0	N	Naturally present in the environment.

Coliform Bacteria 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)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	8/26/2014	1.3	1.3	0.954	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 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.

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 contaminants.

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.



Disinfectants and Disinfectoin By-products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	12/31/2016	1.1	1 - 1.15	MRDLG = 4	MRDL = 4	ppm	N	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	08/05/2015	0.0921	0.0375 - 0.0921	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	08/05/2015	1.13	0.9 - 1.13	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Iron	08/05/2015	0.221	0 - 0.221		1.0	ppm	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Manganese	08/05/2015	18	0 -18	150	150	ppb	N	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Nitrate (measured as Nitrogen)	2016	0.107	0 - 0.107	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium	08/05/2015	35.7	17 - 35.7			ppb	N	Erosion from naturally occurring deposits; Used in water softener regeneration.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	2016	5	0 - 6.3	0	5	pCi/L	N	Erosion of natural deposits.
Gross alpha excluding radon and uranium	2016	14	2.7 - 13.5	0	15	pCi/L	N	Erosion of natural deposits.
Volatile Organic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Xylenes	04/01/2015	0.00202	0 - 0.00202	10	10	ppm	N	Discharge from petroleum factories; Discharge from chemical factories.

Violations Table

Combined Radium 226/228			
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.			
Violation Type	Violation Begin	Violation End	Violation Explanation
Monitoring, Routine Major	07/01/2016	09/30/2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.