

Annual Water Quality Report

Water testing performed in 2016



Introduction

Each year the Village of Oak Park provides residents with a report on the quality of their drinking water. This year's report is for water tested from January 1 through December 31, 2016. The report includes drinking water facts and information on violations and contaminants detected in the drinking water supply.

The Village is dedicated to supplying drinking water that exceeds all state and federal standards. As new challenges to drinking water safety emerge, we remain vigilant in source protection, conservation and community education, while continuing to serve the needs of all water users.

Informed customers are our best allies. We welcome any questions, comments or if you want a printed copy of this report please contact Mike Fenwick at 708.358.5700 or email publicworks@oak-park.us.

2016 Violation Summary

The Village of Oak Park is proud to report that no violations were received in the 2016 sampling year.

Community Participation

Village Board meetings are held at 7:30 p.m. on the first and third Monday of each month in Village Hall, 123 Madison St. Meetings also are streamed live and archived at www.oak-park.us. Residents also are invited to follow us at twitter.com/vopnews, be a fan at www.facebook.com/vopnews and sign up for news via email at www.oak-park.us/enews.

Lead and Drinking Water

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 Village of Oak Park is responsible for providing high quality drinking water, but cannot control the variety of materials used in interior plumbing components. When water has been sitting for several hours, the potential for lead exposure can be minimized by running the 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 at 1.800.426.4791 or www.epa.gov/safewater/lead.

Where Does My Water Come From?

Lake Michigan is the sole source of drinking water for the Village of Oak Park. Water arrives pretreated via pipelines from the City of Chicago's Jardine Water Purification Plant, which is the largest water treatment plant in the world. Water received from Chicago is stored in four underground reservoirs that can hold 12.5 million gallons. The water in the reservoirs remains in constant motion to maintain freshness. Only a small amount of chlorine needs to be added before pumping the water into the Village's system of 105 miles of water mains. To ensure purity, water samples are routinely gathered throughout the water system, from the source, right to your home. A state-certified lab tests the samples using equipment that can measure substances down to one part in one billion!

Oak Park began receiving drinking water from Lake Michigan via the City of Chicago in 1912. About 400,000 gallons of water were pumped each day for the Village's 20,000 residents. Today, an average of five million gallons per day is pumped to Oak Park's 52,000 residents. The rate for water in 1912 was about seven cents per 1000 gallons of water. Today, Oak Park's water rate is \$8.96 per 1000 gallons. Oak Park must continually adjust water rates in response to rate changes imposed by the City of Chicago and to maintain the Village's water distribution system.

Important Health Information

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.

What's in My Water?

The City of Chicago Department of Water Management routinely monitors our drinking water for contaminants according to federal and state laws. The Village of Oak Park collects 60 bacteriological

samples each month along with quarterly disinfectant bi-product sampling. The charts illustrate substances detected in our water for the period of January 1 through December 31, 2016. Although all of the substances listed are below the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The Illinois EPA requires the Village to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Substances that Might be in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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's Safe Drinking Water Hotline 1.800.426.4791. The sources of drinking water (both bottled and tap 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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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 or wildlife;
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or may 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 use;

- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are bi-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff, and septic systems;
- **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at 1.800.426.4791

2015 Voluntary Monitoring and Cryptosporidium

The City of Chicago has continued monitoring for Cryptosporidium, Giardia and E. coli in its source water as part of its water quality program. To date, Cryptosporidium has not been detected in these samples, but Giardia was detected in one raw lake water sample collected in September 2010. Treatment processes have been optimized to provide effective barriers for removal of Cryptosporidium oocysts and Giardia cysts in the source water, effectively removing these organisms in the treatment process. By maintaining low turbidity through the removal of particles from the water, the possibility of Cryptosporidium and Giardia organisms getting into the drinking water system is greatly reduced. Also, in compliance with Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Round 2, the City of Chicago has started the 24 months long monitoring program in April 2015, collecting samples from its source water once per month to monitor for Cryptosporidium, Giardia, E. Coli and turbidity. Cryptosporidium and Giardia were not detected in these samples. For more information on Cryptosporidium, visit www.cdc.gov/parasites/crypto.

In 2015, the Chicago Department of Water Management (CDWM) continued monitoring for hexavalent chromium, also known as Chromium-6. USEPA has not yet established a standard for Chromium-6, a contaminant of concern which has both natural and industrial sources. Any questions or concerns should be addressed to the Chicago Department of Water Management at 312.742.7499. Data reports on the monitoring program for chromium-6 are posted on the City of Chicago's website

which can be accessed at www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/city_of_chicago_emergincontaminantstudy.html

Source Water Assessment Summary

The Illinois EPA implemented a Source Water Assessment Program (SWAP) to assist with watershed protection of public drinking water supplies. The SWAP inventories potential sources of contamination and determined the susceptibility of the source water to contamination. The Illinois EPA has completed the Source Water Assessment Program for the City of Chicago. Further information on the City of Chicago water supply's Source Water Assessment Program is available by calling the City of Chicago, Department of Water Management at 312.744.6635.

The Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intake with no protection other than dilution. This is the reason for mandatory treatment for all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance great enough that shoreline impacts are not usually considered a factor on water quality. At certain times of the year, however, the

potential for contamination exists due to wet-weather flows and river reversals. In addition, the placement of the crib structures may serve to attract waterfowl, gulls, and terns that frequent the Great Lakes area, thereby concentrating fecal deposits at the intake thus compromising the source water quality. Conversely, the shore intakes are highly susceptible to storm water runoff, marinas, and shoreline point sources due to the influx of groundwater to the lake. Chicago has taken extraordinary steps to ensure a safe source of drinking water in the area, from building of the offshore cribs and the introduction of interceptor sewers to the lock-and-dam system of Chicago's water ways and the city's Lakefront Zoning Ordinance. The City now looks to the Department of Water Management and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) to ensure the safety of the city's water supply. Also, Lake Michigan has a variety of organizations and associations that are currently working to either maintain or improve water quality. Further information on our community water supply's Source Water Assessment Program is available by calling the City of Chicago, Department of Water Management, at 312.744.6635.

Definition of Terms

Maximum Contaminant Level Goal (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 Contaminant Level (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.

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

Action Level (AL): The concentration of a contaminant that triggers treatment or other required actions by the water supply.

Maximum Residual Disinfectant Level Goal (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.

Maximum Residual Disinfectant Level (MRDL): The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Amount Detected: This column represents the highest single sample reading of a contaminant of all the samples collected in this calendar year.

Range Low-High: This column represents a range of individual sample results, from lowest to highest that were collected during the CCR calendar year.

Year Sampled: Some contaminants are sampled less frequently than once a year; as a result, not all contaminants were sampled for during the CCR calendar year. If any of these contaminants were detected the last time they were sampled for, they are included in the table along with the date that the detection occurred.

ND: Contaminant Not Detected at or above the reporting or testing limit.

N/A: Not applicable

REGULATED SUBSTANCES

Village of Oak Park				City of Chicago					
SUBSTANCE (UNITS OF MEASURE)	YEAR SAMPLED	MCL (MRDL)	MCLG (MRDLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2016	2	2	n/a	n/a	0.0206	0.0196-0.0206	No	Discharge of drilling wastes; Discharge from 0.0227 metal refineries; Erosion of natural deposits
Chlorine (ppm)	2016	4	4	1	1-1	n/a	n/a	No	Water additive used to control microbes
Combined Radium 226/228 (pCi/L)	2014	5	0	n/a	n/a	0.84	0.5-0.84	No	Erosion of natural deposits
Fluoride (ppm)	2016	4	4	n/a	n/a	.78	0.62-0.78	No	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Gross alpha excluding radon and uranium (pCi/L)	2014	15	0	n/a	n/a	6.6	6.1-6.6	No	Erosion of natural deposits
Haloacetic acids [HAA] (ppb) *Highest running annual average computed	2016	60	no goal for the total	18	10.15-30	n/a	n/a	No	By-products of drinking water disinfection
THM's [Total Trihalomethanes] (ppb)	2016	80	no goal for the total	31	14.14-51.5	n/a	n/a	No	By-products of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2016	5% of monthly samples are positive	0	N/D	n/a	n/a	n/a	No	Naturally present in the environment
Total Nitrate & Nitrite (as Nitrogen) (ppm)	2016	10	10	n/a	n/a	0.46	0.40-0.46	No	Runoff from fertilizer use; Leaching from septic tanks; sewage
Nitrate (as Nitrogen) (ppm)	2016	10	10	n/a	n/a	0.46	0.40-0.46	No	Erosion from natural deposits
Turbidity (NTU) (Highest single measurement)	2016	TT (Limit 1 NTU)	n/a	n/a	n/a	0.16	n/a	No	Soil runoff
Turbidity %<0.3 NTU (Lowest meeting limit)	2016	TT (Limit 95% <0.3 NTU)	n/a	n/a	n/a	100% (Lowest Monthly)	100%-100.0%	No	Soil runoff

Tap water samples were collected for lead and copper analysis from sample sites throughout the Village of Oak Park

SUBSTANCE (UNITS OF MEASURE)	YEAR SAMPLED	MCLG	SITES		VIOLATION	TYPICAL SOURCE
			AMOUNT ABOVE AL/ DETECTED TOTAL (90th %TILE)	SITES		
Copper (ppm)	2015	1.3	0.103	0	No	Corrosion of household plumbing systems; erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2015	0	9.05	3	No	Corrosion of household plumbing systems

WATER QUALITY DATA TABLE FOOTNOTES

Turbidity: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

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

Fluoride: Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health had recommended an optimal fluoride range of 0.9 mg/l to 1.2 mg/l until November 2015. As of November 2015, the new recommendation is an optimal fluoride level of 0.7 mg/l

Sodium: There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials who have concerns about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about the level of sodium in the water.

UNITS OF MEASUREMENT

AL: Action Level

pCi/L: Picouries per liter (a measure of radioactivity)

ppb: Parts per billion, or micrograms per liter (ug/l)

TT: Treatment Technique

ppm: Parts per million, or milligrams per liter (mg/l)

%<0.3 NTU: Percent of samples less than or equal to 0.3 NTU

NTU: Nephelometric Turbidity Unit

UNREGULATED SUBSTANCES (CITY OF CHICAGO RESULTS)

SUBSTANCE (UNITS OF MEASURE)	YEAR SAMPLED	MCL (MRDL)	MCLG (MRDLG)	HIGHEST LEVEL DETECTED	RANGE		TYPICAL SOURCE
					LOW	HIGH	
Sodium ¹ (ppm)	2016	n/a	n/a	8.92	8.49-8.92	25.0-25.7	Erosion of naturally occurring deposits; Used in water softener regeneration
Sulfate (ppm)	2016	n/a	n/a	25.7	25.0-25.7	25.0-25.7	Erosion of naturally occurring deposits

¹Sodium is not currently regulated by the U.S. EPA. However, the State of Illinois has set an MCL for this contaminant for supplies serving a population of 1,000 or more. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

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.



The Village of Oak Park
Village Hall
123 Madison Street
Oak Park, Illinois 60302
www.oak-park.us

708.358.5700
publicworks@oak-park.us



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