

City of Oak Forest

Annual Drinking Water Quality Report IL0312190

For the period of January 1 to December 31, 2016

Water Supply:

This report is intended to provide you with important information about your drinking water and the efforts made by the Oak Forest water system to provide safe drinking water. The source of drinking water used by Oak Forest is Purchased Surface Water.

The City of Oak Forest purchased Chicago water from the Village of Oak Lawn. This water is received into our reservoirs and pumped to the City's local and retail customer base. The water is chlorinated and sampled to maintain the quality as required. We do not supplement or mix our water with any other sources.

For more information regarding this report, contact: Oak Forest Water Department (708) 535 – 4090

Este informe contiene informacion muy importante sobre el agua que usted bebe. Traduzcalo o hable con alguien que lo entienda bien

Water Quality:

The City of Chicago's South Water Purification Plant controls the water quality supplied to the City of Oak Forest. The City of Oak Forest provides additional chlorine as necessary to maintain the water quality as delivered to them. Information from the City of Chicago CCR is included in this report for review by the water consumers.

City Testing:

The City of Oak Forest tests the water supply for chlorine content on a daily basis to maintain the optimum levels for the consumer's needs. On a weekly basis, bacteriological samples are taken. Four times per year, samples are submitted for Total Trihalomethane (TTHM) and Haloacetic Acids (HAA5) Analysis. Samples are also provided for lead and copper monitoring on a schedule established by the IEPA. All testing and reports are performed according to the requirements of IEPA. Four samples were collected in 2014 - 15 and submitted for Unregulated Contaminants (UCMR3) on a schedule established by the USEPA. All testing and reports are performed according to requirements of the USEPA. The City of Chicago's 2016 Water Quality Data is included herein for your information.

City Testing Summary:

Bacteriological samples: No unsatisfactory samples were submitted.

Lead/Copper results: 0 samples exceeding the 15 ppb / 0 exceeding the 1.3 ppm Action Level
90th Percentile – lead = 3 ppb / copper = 0.039 ppm

Disinfection/Disinfection By - Products

- **TTHM report:** No sample exceeding the 80 ppb MCL.
Highest level detected – 40 ppb
- **HAA5 report:** No sample exceeding the 60 ppb MCL.
Highest level detected – 17 ppb

2016 Water Quality Data

-Definition of Terms-

Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Maximum Residual Disinfection level Goal (MRDLG): The level of drinking water disinfection below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

Highest level Detected: This column represents the highest single sample reading of a contaminant of all the samples collected in 2016.

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

Date of Sample: If a date appears in this column, the Illinois EPA requires monitoring for this contaminant less than once per year because the concentrations do not frequently change. If no date appears in the column, monitoring for this contaminant was conducted during the Consumer Confidence Report calendar year.

Action level goal: The level of a contaminant in drinking water which there is no known or expected risk to health. ALGs allow for margin of safety.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

nd: Not detectable at testing limits. **n/a:** Not applicable.

Definitions: The following table 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 possibly) 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.

MREM: Millirems per year (a measure of radiation absorbed by the body)

PPB or UG/L: Micrograms per Liter or Parts per Billion – or one ounce in 7,350,000 gallons of water.

Na: Not applicable.

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 drink water.

Detected Contaminants.

Contaminant (units)	MCLG	MCL	Level Detected	Range of detection	violation	Date of sample	Likely source of contamination
Inorganic Contaminants							
LEAD (ppb)	0	AL = 15	3 (90 th percentile)	0 exceeding AL	none	6/22/2014	Corrosion of household plumbing systems; Erosion of natural deposits.
COPPER (ppm)	1.3	1.3	0.039 (90 th percentile)	0 exceeding AL	none	6/22/2014	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Disinfection/Disinfection By-Products							
TTHMs[TOTAL TRIHALOMETHANES](ppb)	n/a	80	40 (Highest level)	14.66 – 63.5	none	2016	By-product of drinking water disinfection.
HAA5[HALOACETIC ACIDS](ppb)	n/a	60	17 (Highest level)	4.31 – 28.7	none	2016	By-product of drinking water disinfection.
CHLORINE (as Cl ₂) (ppm)	MRDLG = 4.0	MRDL = 4.0	1 (Highest value)	0.7 – 1	none	12/31/16	Water additive used to control microbes.
Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future							

Unregulated Contaminant Monitoring (UCUR3)¹

Samples collected at TPO1 and Distribution

<i>Contaminant (units)</i>	<i>Level Detected</i>	<i>Range of detection</i>	<i>Date of sample</i>	<i>Likely source of contamination</i>
Chromium (ppb)	0.23	0.22 - 0.24	2015	Naturally occurring elements: used in making steel and other alloys; Used for chrome plating, dyes, and pigments, leather tanning and wood preservation.
Chromium 6 (ppb)	0.18	0.17 - 0.19	2015	Naturally occurring elements: used in making steel and other alloys; Used for chrome plating, dyes, and pigments, leather tanning and wood preservation.
Molybdenum (ppb)	1.1	1.1 – 1.1	2015	Naturally occurring element found in ores and present in plants, animals, and bacteria: commonly used form molybdenum trioxide used in chemical reagent.
Strontium (ppb)	125	120 – 130	2015	Naturally occurring element; historically, commercial use of strontium has been in faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium (ppb)	0.22	0.22 – 0.22	2015	Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

¹Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. A maximum contaminant level (MCL) for these substances has not been established by either state or federal regulations, nor has mandatory health effect language.

Sources of Drinking Water:

The sources of drinking water (both tap 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 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.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration 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 Assessment Summary:

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 City Council meetings (held on the second and fourth Tuesday of every month at 8:00P.M.). 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 plant operator at 708-687-4050. 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 web site at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

Source of water:

Chicago. 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 only dilution. This is the reason for mandatory treatment for all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance 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 and 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. Throughout history there have been extraordinary steps taken to assure a safe source of drinking water in the Chicago land area. From the building of offshore cribs and the introduction of interceptor sewers to the lock and dam system of Chicago's waterways and the City's Lakefront Zoning Ordinance. The City now looks to the recently created Department of Water Management, Department of Environment and the MWRDGC to assure the safety of the City's water supply. Also, water supply officials from Chicago are active members of the West Shore Water Producers Association. Coordination of water quality situations (i.e. spills tanker leaks exotic species, etc.) and general lake conditions are frequently discussed during the association's quarterly meetings. Also, Lake Michigan has a variety of organizations and associations that are currently working to either maintain or improve water quality.

Finally, one of the best ways to ensure a safe source of drinking water is to develop a program designed to protect the source water against potential contamination on the local level. Since the predominant land use within Illinois' boundary of Lake Michigan watershed is urban, a majority of the watershed protection activities in this document are aimed at this purpose. Citizens should be aware that everyday activities in an urban setting might have a negative impact on their source water. A proven best management practice (BMP) for this purpose has been the identification and stenciling of storm water drains within a watershed. Stenciling along with an educational component is necessary to keep the lake a safe and reliable source of drinking water.

Educational Information:

1. 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 (800) 426-4791.
2. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).
3. The City of Oak Forest uses the following watering restrictions from May 15 to September 15. Sprinkling is to be done on an odd (address ends in an odd number) or even (address ends in an even number) basis from 7:00 AM until 11:00 AM and 7:00 PM to 11:00 PM. If more stringent restrictions become necessary notification will be given.

The following lawn care recommendations are supplied by the University of Minnesota:

- Water deeply and infrequently. One inch of water per week is ideal.
- Over-watering wastes your money and also removes plant nutrient from the soil.
- Excess watering can cause disease problems in your lawn.

Violation Summary Table

Violation Types

MNR Monitoring Violation (failure to monitor)

MCL Maximum Contaminant Level Violation (level found exceeded regulated standard)

TTV Treatment Technique Violation (failure to meet water treatment process)

RPV Reporting Violation (failure to submit results/required report by the deadline)

*** State only violation (not a federal requirement)

Violations for your system:

Violation Type	Violation Begin	Violation End	Violation Explanation
CCR Report	07/01/2016	08/03/2016	We failed to provide to you, our drinking water customers, an annual report that Inform you about the quality of our drinking water and characterizes the risks from exposure to contaminants detected in our drinking water. <i>(Report was available but the distribution verification form was not turned in on time.)</i>

DEPARTMENT OF WATER MANAGEMENT
CITY OF CHICAGO
SOURCE WATER ASSESSMENT SUMMARY
FOR THE 2016 CONSUMER CONFIDENCE REPORT (CCR)

Source Water Location

The City of Chicago utilizes Lake Michigan as its source of water via two water treatment plants. The Jardine Water Purification Plant serves the northern areas of the City and suburbs, while the South Water Purification Plant serves the southern areas of the City and suburbs. Lake Michigan is the only Great Lake that is entirely contained within the United States. It borders Illinois, Indiana, Michigan and Wisconsin, and is the second largest Great Lake by volume with 1,180 cubic miles of water and the third largest by area.

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 source of contamination and determined the susceptibility of source water to contamination. The Illinois EPA has completed the Source Water Assessment Program for our supply. 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.

Susceptibility to Contamination

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 only dilution. This is the reason for mandatory treatment for all surface water supplies in Illinois. Chicago's offshore intakes are located at a distance 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 and 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.

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

2015 Voluntary Monitoring

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 2010 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 Rule (LT2ESWTR) Round 2: the City of Chicago has continued the 24 months long monitoring program that was started in April 2015, collecting samples from its source water once per month to monitor for Cryptosporidium, Giardia, E-coli and turbidity, with no detections for Cryptosporidium and Giardia so far.

In 2015, CDWM has also monitored 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. Please address any questions or concerns to DWM's water quality division at 312-742-7499. Data reports on the monitoring program for chromium-6 are posted on the City's website which can be accessed at the following address below:

http://www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/city_of_chicago_emerqincontaminantstudy.html

2016 Violation Summary Table

We are pleased to announce that no monitoring, repotting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during 2016.

**DATA TABULATED BY CHICAGO DEPARTMENT OF WATER MANAGEMENT
2016 Water Quality Data**

-Definition of Terms-

Maximum Contaminant Level Goal (MCLG): The level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

Highest level Detected: This column represents the highest single sample reading of a contaminant of all the samples collected in 2009.

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

Date of Sample: If a date appears in this column, the Illinois EPA requires monitoring for this contaminant less than once per year because the concentrations do not frequently change. If no date appears in the column, monitoring for this contaminant was conducted during the Consumer Confidence Report calendar year.

Action level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

nd: Not detectable at testing limits. **n/a:** Not applicable.

Detected Contaminants

Contaminant (units of measurement) Typical Source of contaminant	MCLG	MCL	Highest level detected	Range of detections	Violation	Date of Sample
Turbidity Data						
TURBIDITY (NTU/Lowest Monthly %≤0.3 NTU) Soil Runoff.	N/A	TT (Limit 0.3NTU)	(Lowest Monthly %) 100%	100% - 100%		
TURBIDITY (NTU/ Highest single measurement.) Soil Runoff.	N/A	TT (1NTU)	0.16	N/A		
Inorganic Contaminants						
BARIUM (ppm) Discharge of drilling wastes: Discharge from metal refineries: Erosion of natural deposits:	2	2	0.0206	0.0196 - 0.0206		
NITRATE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	10	10	0.46	0.40 – 0.46		
TOTAL NITRATE & NITRITE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	10	10	0.46	0.40 – 0.46		
Total Organic Carbon						
TOC [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.						
Unregulated Contaminants						
SULFATE (ppm) Erosion of naturally occurring deposits.	N/A	N/A	25.7	25.0 – 25.7		
SODIUM (ppm) Erosion of naturally occurring deposits; used as water softener.	N/A	N/A	8.92	8.49 – 8.92		
State Regulated Contaminants						
FLUORIDE (ppm) Water additive which promotes strong teeth.	4	4	0.78	0.52 – 0.78		
Radioactive Contaminants						
COMBINED RADIUM 226/228 (pCi/l) Decay of natural and man – made deposits	0	5	0.84	0.50 – 0.84		2/11/2014
GROSS ALPHA excluding radon and uranium (pCi/l) Decay of natural and man – made deposits	0	15	6.6	6.1 – 6.6		2/11/2014

UCMR3 Compliance Reporting

In compliance with the Unregulated Contaminated Monitoring Rule 3 (UCMR3) as required by the EPA, the City of Chicago has monitored for 28 contaminants suspected to be present in drinking water, but do not have health-based standards set under the Safe drinking Water Act. The monitoring results were reported to the EPA. The list of UCMR3 contaminants that we have monitored includes volatile organic chemicals, metals, perfluorinated compounds, hormones 1,4-dioxane and chlorate. The contaminants that were detected in the monitoring program are listed below.

Contaminant (units of measurement) Typical Source of contaminant	MCLG	MCL	Highest level detected	Range of detections	Date of Sample
CHROMIUM (ppb) Naturally-occurring element; used in making steel and other alloys.	100	100	0.3	0.3-0.3	

MOLYBDENUM (ppb) Naturally-occurring element found in ores and plants, animal and bacteria; commonly used form molybdenum trioxide	NA	NA	1.1	1.0-1.1
STRONTIUM (ppb) Naturally-occurring element; has been used in cathode-ray TV's to block x-ray emissions.	NA	NA	120	110-120
VANADIUM (ppb) Naturally-occurring metal; vanadium pentoxide is used as a catalyst and a chemical intermediate	NA	NA	0.2	0.2-0.2
CHROMIUM-6 or HEXAVALENT CHROMIUM (ppb) Naturally-occurring element; used in making steel and alloys	NA	NA	0.19	0.18-0.19

Unit of Measurement

ppm – Parts per million, or milligrams per liter

ppb – Parts per billion or micrograms per liter

NTU – Nephelometric Turbidity Units, used to measure cloudiness in drinking water

%≤0.3 NTU – Percent samples less than 0.3 NTU

pCi/l – Picocuries per liter, used to measure radioactivity

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 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 recommends an optimal fluoride Level of 0.7 MG/L with a range of 0.6 MG/L to 0.8 MG/L.

SODIUM

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.