

Water Quality Report 2015



In 1996, the U.S. Congress and the President amended the Safe Drinking Water Act. They added a provision requiring that all community water systems deliver an annual water quality report to their customers. The following is the Village of Mokena's report for 2015. Questions regarding this report may be directed to the water department at (708) 479-3926.

Your water is provided by the Chicago Water Department. 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 third largest by area.

As water travels over the surface of the land and through the ground, it can dissolve naturally occurring minerals and radioactive materials, and pick up substances resulting from the presence of animals or human activity. Possible contaminants consist of:

- Microbial contaminants, such as viruses and bacteria
- Inorganic contaminants, such as salts and metals
- Organic chemical contaminants, such as pesticides, herbicides, and petroleum based chemicals
- Radioactive contaminants

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).

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 systems. The Illinois EPA may prescribe additional or more stringent regulations.

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 about lead?



Recently, there has been a lot in the news regarding lead in drinking water due to cases in Flint Michigan and the Chicago Public Schools. In order to ensure that your tap water is safe to drink, the USEPA (United States Environment Protection Agency) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Under the authority of the Safe Drinking Water Act the USEPA set the action level for lead in drinking water at 15 ppb (parts per billion). This means utilities must ensure that water from the customer's tap does not exceed this level in at least 90% of the homes tested.

The Village of Mokena has never had any samples test above the 15 ppb regulation, as is noted in our Water Quality Report.

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. For more information on testing your water you can contact the Mokena Water Department at (708-479-3926). Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at <http://www.epa.gov/safewater/lead>

Water Quality Report 2015 - Definitions

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.

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 disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

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 2015 calendar year.

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

Range of Detections: This column represents the range of individual sample results, from lowest to highest that were collected during the 2015 calendar year.

Turbidity: Turbidity is a measure 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 the filtration system and disinfectants.

Highest Level Detected: This column represents the maximum sample result obtained during the 2015 calendar year. In some cases, it may represent a single sample if only one sample was collected. For HAA5 and TTHMs, the value is the highest quarterly running annual average of 2015. For chlorine, the value is the highest monthly running annual average of 2015. For copper, the value is the 90th percentile value of all sample results.

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.

Lead: 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. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available online at <http://www.epa.gov/safewater/lead>.

Fluoride: Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of 0.9 mg/l to 1.2 mg/l.

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 you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

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

Abbreviations

- n/a - not applicable
- nd - not detectable at testing limits
- ppm - parts per million, or milligrams per liter
- ppb - parts per billion, or micrograms per liter
- pCi/L - Picocuries per liter is a measure of the radioactivity in water
- NTU - Nephelometric Turbidity Unit, used to measure cloudiness in drinking water
- %≤0.3 NTU - Percent of samples less than or equal to 0.3 NTU

Water Quality Report 2015 - Data Table

Contaminant Date of Sample	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Unit of Measurement	Typical Sources of Contaminant
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Disinfectants & Disinfection By-Products

Total Haloacetic Acids (HAA5)	n/a	60	16	11.8-21.3	No	ppb	By-product of drinking water disinfection.
TTHMs (Total Trihalomethanes)	n/a	80	39	19.2-50.8	No	ppb	By-product of drinking water disinfection.
Chlorine (as Cl ₂)	MRDLG = 4.0	MRDL = 4.0	0.7	0.6-0.8	No	ppm	Drinking water disinfectant.

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.						
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Radioactive Contaminants

Combined Radium 226/228 (2-11-2014)	0	5	0.84	0.50-0.84	No	pCi/L	Decay of natural and man-made deposits.
Gross Alpha excluding radon and uranium (2-11-2014)	0	15	6.6	6.1-6.6	No	pCi/L	Decay of natural and man-made deposits.

Inorganic Contaminants

Barium	2	2	0.0201	0.0193-0.0201	No	ppm	Erosion of natural deposits; Discharge of drilling wastes and from metal refineries.
Nitrate (as Nitrogen)	10	10	0.30	0.28-0.30	No	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Nitrate & Nitrite (as nitrogen)	10	10	0.30	0.28-0.30	No	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Fluoride	4	4	1.01	0.76-1.01	No	ppm	Water additive which promotes strong teeth.
Copper (6-4-2013)	1.3	AL=1.3	0.154	0 sites exceeding AL	No	ppm	Erosion of natural deposits; Leaching from wood preservatives; corrosion of household plumbing systems.
Lead (6-4-2013) - as required by the Illinois EPA, we test for lead every three years (tested June 2016)	0	AL=15	Not Detected	0 sites exceeding AL	No	ppb	Corrosion of household plumbing systems; erosion of natural deposits.

Turbidity Data

Turbidity (lowest monthly %≤0.3 NTU)	n/a	TT (95%≤0.3 NTU)	99.7	99.7-100	No	%	Soil runoff.
Turbidity (highest single measurement)	n/a	TT (1 NTU Max)	0.45	n/a	No	NTU	Soil runoff.

Unregulated Contaminants

Sulfate	n/a	n/a	27.2	18.8-27.2	No	ppm	Erosion of naturally occurring deposits.
Sodium	n/a	n/a	8.48	8.04-8.48	No	ppm	Erosion of natural deposits; Used as water softener.

Unregulated Contaminant Monitoring Rule 3 (UCMR3)

Substance (Units)	Year Sampled	Amount Detected (average)	Range of Detections (lowest - highest)	Typical Source
Chromium (ppb)	2015	0.3	0.2-0.4	Naturally occurring element; used in making steel & other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation.
Chromium 6 (ppb)	2015	0.20	0.19-0.20	Naturally occurring element; used in making steel & other alloys; used for chrome plating, dyes and pigments, leather tanning and wood preservation.
Molybdenum (ppb)	2015	1.2	1.1-1.2	Naturally occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Strontium (ppb)	2015	128.1	123.8-131.8	Naturally occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium (ppb)	2015	0.1	nd-0.2	Naturally occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

Water Quality Report 2015 - Summary

Source Water Assessment Summary

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.

The complete Source Water Assessment Summary is available online at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>

WATER CONSERVATION TIPS

Below are some helpful and easy conservation tips that anyone can utilize to save water. Conserve because it's the right thing to do. Together we can make a difference!

- Turn off the tap while shaving, washing your face or brushing your teeth.
- Store drinking water in the refrigerator rather than letting the tap run for a cool glass of water.
- Use the refrigerator or a microwave instead of running water to thaw frozen foods.
- Fix leaky faucets and plumbing joints.
- Don't run the hose while washing your car. Use a bucket of water and a quick hose rinse at the end.
- Run only full loads in the washing machine or dishwasher.
- Set lawn mower blades one notch higher. Longer grass means less evaporation.
- Check toilet for leaks. Put dye tablets or food coloring into the tank. If color appears in the bowl without flushing, there's a leak that should be repaired.
- Soak pots and pans instead of letting the water run while you scrape them clean.

STORM WATER POLLUTION SOLUTIONS

Polluted stormwater can have an adverse affect on our environment. By working together we can create a healthier atmosphere for future generations. The following information is being provided on behalf of the EPA. For additional tips visit <http://nepis.epa.gov/Exe/ZyPDF.cgi/200049AF.PDF?Dockey=200049AF.PDF>

- Lawn Care
 - Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Pet Care
 - When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.
- Auto Care
 - Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.

Your Mokena Water Department staff works hard on our customers' behalf to ensure that safe drinking water is delivered to your home or business. However, you too can help prevent water contamination by:

- * Not dumping chemicals/oils into the ground or waterways
- * Having the backflow preventer for your commercial establishment or lawn sprinkler system tested yearly before using the system.

We want you to be informed about your water supply. If you have any questions about this report or concerning your water supply, please contact Lou Tiberi (708) 479-3926 between the hours of 8:30 a.m. and 5:00 p.m. Monday thru Friday. Your Elected Officials make major decisions regarding improvements to the water system. Please feel welcome to attend any of our regularly scheduled Village Board meetings. They are held on the second and fourth Monday of each month at 7:00 p.m. at the Village Hall, located at 11004 Carpenter Street.