

# Village of Worth

## Annual Drinking Water Quality Report

### For the Period January 1 to December 31, 2013

### Consumer Confidence Report (CCR) - 2014

#### WORTH IL0313360

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 WORTH is Purchased Surface Water.

For more information regarding this report contact:

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Phone 708-448-4256

Regularly scheduled Board Meetings are held on the 1st and 3rd Tuesday of each month.

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

#### Source of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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. Immunocompromised 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

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 schedule 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 (708) 448-4256. To view a summary version of the completed 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>.

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.

#### Source Water Information

Source Water	Type of Water	Report Status	Location
CC 01-MASTER METER	FF IL0316000 TP02: LAKE SW		10934 SOUTH NEENAH

# 2013 Regulated Contaminants Detected

## Lead and Copper

Definitions:

**Action Level Goal (ALG):** The level of a contaminant in drinking water below which there is not known or expected risk to health. ALGs allow for a 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.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	07/13/2011	1.3	1.3	0.033	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	07/13/2011	0	15	1.8	0	ppb	N	Corrosion of household plumbing systems; Erosion of natural deposits.

## Water Quality Test Results

**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 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 residual disinfectant level goal of 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 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.

**Definitions:** The following tables contain scientific terms and measures, some of which may require explanation.

**ppb:** micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

**n/a:** not applicable.

**Avg:** Regulatory compliance with some MCLs are based on running annual average of monthly samples.

**ppm:** milligrams per liter or parts per million - or one ounce in 7,350 gallons of water.

## Regulated Contaminants

Disinfectants and Disinfection by-products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloramines	12/31/2013	0.9	0.7 - 1	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5) *	2013	14	1.3 - 25	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHm) *	2013	24	14.9 - 33.55	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

## 2013 Water Quality Data

### ~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.

**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 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.

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

**N/A:** Not applicable.

## Detected Contaminants

### Turbidity Data

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
TURBIDITY (NTU/Lowest Monthly % $\leq$ 0.3 NTU) Soil runoff	N/A	TT(95% $\leq$ 0.3NTU)	(Lowest Monthly %) 100%	100% - 100.0%		
TURBIDITY (NTU/Highest Single Measurement) Soil runoff	N/A	TT(1NTUmax)	0.18	N/A		

### Inorganic Contaminants

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
BARIUM (ppm) Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	2	2	0.0205	0.0204 - 0.0205		
ARSENIC (ppb) Erosion of natural deposits; runoff from orchards; Runoff from glass and electronics production wastes	0	10	0.77	0.519 - 0.767		
SELENIUM (ppb) Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines	50	50	2.48	ND - 2.48		
NITRATE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	10	10	0.362	0.351 - 0.362		
TOTAL NITRATE 7 NITRATE (AS NITROGEN) (ppm) Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	10	10	0.362	0.351 - 0.362		

## Unregulated Contaminant Monitoring Rule (UCMR3)<sup>1</sup>

Substance (units)	Year Sampled	Amount Detected (average)	Range of Detections (lowest -	Typical Source
1,1-Dichloroethane	2013	<0.03 ug/L	<0.03	Halogenated alkane, used as a solvent.
1,2,3-trichloropropane	2013	<0.03 ug/L	<0.03	Halogenated alkane; used as an ingredient in paint, varnish remover, solvents and degreasing agents
1,3-butadiene	2013	<0.01 ug/L	<0.01	Alkene; used in rubber manufacturing and occurs as a gas
1,4-Dioxane	2013	<0.07 ug/L	<0.07	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics, and shampoos, cleaning agent, surface coating, and adhesive agent.
Bromochloromethane	2013	<0.06 ug/L	<0.06	Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides.
Bromomethane	2013	<0.02 ug/L	<0.02	Halogenated alkane; occurs as a gas, and used as a fumigant on soil before planting, on crops after harvest, on vehicles and buildings, and for other specialized purposes
Chlorate	2013	<20 ug/L	<20	Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide.
Chlorodifluoromethane	2013	<0.08 ug/L	<0.08	Chlorofluorocarbon; occurs as a gas, and used as a refrigerant, as a low-temperature solvent, and in fluorocarbon resins, especially tetrafluoroethylene polymers.
Chromium	2013		<0.2 0.29	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation
Chromium 6 (ppb)	2013	0.201 ug/L	0.189 0.210	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.
Cobalt		<11 ug/L	<1 <20	Naturally-occurring element found in the earth's crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine and as a germicide
Molybdenum	2013	1.15 ug/L	1.08 1.23	Naturally-occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Perfluorobutanesulfonic acid (PFBS)	2013	<0.09 ug/L	<0.09	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluoroheptanoic acid (PFHpA)	2013	<0.01 ug/L	<0.01	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorohexanesulfonic acid (PFHxS)	2013	<0.03 ug/L	<0.03	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorononanoic acid (PFNA)	2013	<0.02 ug/L	<0.02	Manmade chemical; used in products to make them stain, grease, heat and water resistant
Perfluorooctanesulfonic acid (PFOS)	2013	<0.04 ug/L	<0.04	Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS still generated incidentally
Perfluorooctanoic acid (PFOA)	2013	<0.02 ug/L	<0.02	Perfluorinated aliphatic carboxylic acid; used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films
Strontium	2013	120 ug/L	117.6 129.9	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	2013	0.253 ug/L	0.201 0.287	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

<sup>1</sup>Unregulated 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 effects language.

### **Total Organic Carbon**

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
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**

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
SULFATE (ppm) Erosion of naturally occurring deposits	N/A	N/A	11.9	ND - 11.9		
SODIUM (ppm) Erosion of naturally occurring deposits; Used as water softener	N/A	N/A	7.84	7.42 - 7.84		

### **State Regulated Contaminants**

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
FLUORIDE (ppm) Water additive which promotes strong teeth	4	4	0.9	0.856 - 0.922		

### **Radioactive Contaminants**

Contaminant (unit of measurement) Typical Source of Contaminant	MCLG	MCL	Highest Level Detected	Range of Detections	Violation	Date of Sample
COMBINED RADIUM 226/228 (pCi/L) Decay of natural and man-made deposits.	0	5	1.38	1.30 - 1.38		03-17-2008
GROSS ALPHA excluding radon and uranium (pCi/L) Decay of natural and man-made deposits.	0	15	0.88	0.09 - 0.88		03-17-2008

### **Unit of Measurement**

ppm - Parts per million, or milligrams per liter  
ppb - Parts per billion, or micrograms per liter  
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  
pCi/L - Picocuries per liter, used to measure radioactivity

## **2013 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 of 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 range of 0.9 mg/l to 1.2 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.



## Village of Worth

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### CITY OF CHICAGO, DEPARTMENT OF WATER MANAGEMENT SOURCE WATER ASSESSMENT SUMMARY FOR THE 2013 CONSUMER CONFIDENCE REPORT (CCR)

#### **Source Water Location**

The City of Chicago utilizes Lake Michigan as its source 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 sources of contamination and determined the susceptibility of the 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 312-742-7499.

#### **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) 742-7499.

#### **2013 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.

In 2013, CDWM has also 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. Please address any questions of 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\\_emerigincontaminantstudy.html](http://www.cityofchicago.org/city/en/depts/water/supp_info/water_quality_resultsandreports/city_of_chicago_emerigincontaminantstudy.html)

### **2013 Violation Summary Table**

We are pleased to announce that no monitoring, reporting, treatment technique, maximum residual disinfectant level, or maximum contaminant level violations were recorded during 2013.