

# The City of Lake Forest Annual Water Quality Report

Calendar Year  
2004



*Dear Water Customer:*

*We are pleased to present a summary of the quality of the water provided to you during the calendar year 2004. The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence" report to its customers, in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. We are committed to providing the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water.*

*We encourage public interest and participation in our community's decisions affecting drinking water. Regular City Council Meetings occur on the first Monday and the third Thursday each month starting at 7:30 p.m. at City Hall. Agendas for these meetings can be viewed at the bulletin boards located in the train depots, at the Municipal Services Building, City Hall, and on the web at [www.cityoflakeforest.com](http://www.cityoflakeforest.com).*



*The drinking water supplied by  
the LAKE FOREST WATER PLANT  
meets or surpasses all Federal  
and State drinking-water standards.*

## OVERVIEW

Construction was completed on the new Membrane Plant in April 2004, and the plant began producing water through the new system on May 1. During the 2004 calendar year, the Water Plant produced 1.238 billion gallons of water and placed 9,511 feet of new pipe into the distribution system.

## WATER SOURCE

The Water Plant is supplied by surface water from Lake Michigan drawn through 42-inch and 24-inch intake pipelines.

## WATER QUALITY DATA TABLE

The table which follows shows the results of the Lake Forest 2004 water quality analyses. Every regulated contaminant that was detected in the water, even in the most minute traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Definitions of MCL and MCLG are important. Water Plant Operators also perform 35,000 yearly tests of samples taken in the treatment process and the distribution system to ensure high-quality drinking water.

- **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.
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirement that a water system must follow.
- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water. The data presented in this report is from the most recent testing done in accordance with regulations.
- **Level Found:** This column represents an average of sample result data collected during the CCR calendar year. In some cases, it may represent a single sample if only one sample was collected.
- **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 CCR calendar year.

# WATER QUALITY TABLE

Contaminant	Date of Samples	MCL	MCLG	Level Found	Range of Detections	Major Sources of Contamination	Violation
<i>Inorganic Contaminants</i>							
Arsenic (ppb)	2004	50	N/A	1.1	N/A	Erosion of natural deposits, runoff from orchards	NO
Copper (ppm)	8/18/02	AL = 1.3	1.3	0.1	0 Exceeded AL	Corrosion of plumbing systems, erosion of natural deposits, leaching from wood preservatives	NO
Barium (ppm)	2004	2	2	0.019	N/A	Discharge of drilling wastes, metal refineries, erosion of natural deposits	NO
Nitrite & Nitrate (ppm)	2004	10	10	0.452	0.44–0.452	Runoff from fertilizer, sewage, erosion of natural deposits	NO
Nitrate (as N) (ppm)	2004	10	10	0.452	0.22–0.452	Runoff from fertilizer, sewage, erosion of natural deposits	NO
(1) Lead (ppb)	8/18/02	AL = 15	0	0	0 Exceeded AL	Corrosion of household plumbing, erosion of natural deposits	NO
Fluoride (ppm)	2004	4	4	1.1	N/A	Water additive to promote strong teeth, discharge from fertilizer	NO
<i>Microbiological Contaminants</i>							
Turbidity (NTU)	2004	TT = 1	N/A	0.17	N/A	Soil runoff	NO
Turbidity (<0.3 NTU)	2004	TT	N/A	100	100–100	Soil runoff	NO
(2) Coliform bacteria	2004	0	5%	0	N/A	Naturally present in the environment	NO
<i>Disinfectants/Disinfection By-Product</i>							
(3) TTHMs (ppb) (Total Trihalomethanes)	2004	80	N/A	41.1	16–41.1	By-product of drinking water chlorination	NO
Total Haloacetic Acids (ppb)	2004	60	—	22.7	11–22.7	By-product of drinking water chlorination	NO
Chlorine	2004	4	—	.806	0–.806	Water additive used to control microbes	NO
<i>State-Regulated Contaminants</i>							
Sodium (ppm)	2004	N/A	N/A	14	N/A	Erosion of naturally occurring deposits, used as water softener	NO

## WATER QUALITY TABLE FOOTNOTES

- (1) 30 homes were sampled for lead in 2002 and 0 homes exceeded the MCL of 15 ppb.
- (2) If greater than 5% of the monthly samples are positive.
- (3) Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their livers, kidneys, or central nervous systems, and may have increased risk of getting cancer.

### KEY TO TABLE

AL = Action Level

MCLG = Maximum Contaminant Level Goal

MCL = Maximum Contaminant Level

NTU = Nephelometric Turbidity Units

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

TT = Treatment Technique

N/A = Not Applicable

ND = Not Detectable at testing limits



## REQUIRED ADDITIONAL HEALTH INFORMATION

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water.

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 Environmental Protection Agency's Safe Drinking Water Hotline (800.426.4791).

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 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:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- (D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- (E) 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, 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 is 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* are available from the Safe Drinking Water Hotline (800.426.4791).

## NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

The City of Lake Forest welcomes your questions about the Lake Forest Water Plant and water quality. Call Michael Thomas, Superintendent of Public Works, at 847.615.4265 or Bill Hensel, Chief Water Plant Operator, at 847.615.4277 at any time.

## MEMBERSHIP IN THE FOLLOWING ORGANIZATIONS

West Shore Water Producers Association  
American Water Works Association

## 2004 SOURCE WATER ASSESSMENT

Lake Michigan is our source for drinking water in The City of Lake Forest. In August 2003 the Illinois Environmental Protection Agency completed a Source Water Assessment to determine the potential for contamination at or around our intake pipelines that draw raw water from Lake Michigan. A copy of the Source Water Assessment is available at the Lake Forest Library by calling 847.234.0636. Further information on Source Water Assessment is available on the web at: [www.epa.state.il.us./water/groundwater/source-water-assessment/index.html](http://www.epa.state.il.us./water/groundwater/source-water-assessment/index.html).

The report shows that Lake Forest's intakes are moderately sensitive to potential pollution. Although there are no sources within the critical assessment zone, there are several within the immediate source water area. The combination of land use, sewer lift stations, and outflow from storm sewers into the ravines adds to the susceptibility of Lake Forest's intakes. The Lake Forest Water Plant constantly monitors raw water quality and has a long history of providing clean drinking water to our customers.

## IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

The City's water system violated two monitoring requirements for drinking water standards in 2004. Although these were not emergency situations, you have a right to know what occurred and how these situations were corrected.

The Water Plant is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During July 2004 we did not monitor for Total Alkalinity and Total Organic Carbon. This resulted in the EPA issuing the City a monitoring violation.

### *Is there anything I need to do with my drinking water?*

There is nothing you need to do at this time. The table on the back lists the contaminants we did not properly test for during the last year. The table shows the frequency and number of samples taken, how many should have been taken, and the date follow-up samples were taken for Raw Water Alkalinity and Total Organic Carbon (TOC) for raw and finished water.

Contaminant	Frequency	# of Samples	Scheduled Sample Date	Date Samples Taken
Alkalinity	1/month	0	July 2004	August 2004
TOC—raw water	1/month	0	July 2004	August 2004
TOC—finished water	1/month	0	July 2004	August 2004

***What happened and what is now being done?***

In July 2004 we contracted out with a private lab to perform all the required EPA testing. Due to a communication error, the samples for July were not taken. We now have a cross-check system between the Water Plant and the lab to ensure that samples are not missed. Samples are picked up on the first and third Monday of each month by courier, which provides for greater consistency in the sampling schedule. For more information, please contact Bill Hensel at 847.615.4277.

Please share this information with other people who drink this water, especially those who may not have received this notice directly, i.e., people in apartments, nursing homes, schools, and businesses. You can do this by posting this notice in a public place or distributing copies by hand or mail.

ABOUT THE DATA	
<b>TURBIDITY</b>	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.
<b>LEAD</b>	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 (800.426.4791).
<b>SODIUM</b>	There is not a State or Federal MCL for sodium. Monitoring is required to provide information to consumers and health officials who are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician.
<b>FLUORIDE</b>	Fluoride is added to the water to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of .9 mg/l to 1.2 mg/l.
<b>NITRATE &amp; NITRITE</b>	Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.
<b>UNREGULATED CONTAMINANTS</b>	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.

