

North Chicago Water Quality Report – IL097-1250

Annual Water Quality Report for the period of January 1 to December 31, 2007

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

After you have read this report, if you have any questions, please contact **Darrell A. King, M.S.**, North Chicago Water Dept. Superintendent, or **Gale Young, Sr.**, North Chicago Water Dept. Microbiologist at **(847) 596-8880** between the hours of 7:30 a.m. till 4:30 p.m., Monday through Friday. We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to schedule an appointment to visit us here at the waterplant.

2007 Source Water Assessment

A Source Water Assessment summary is included below for your convenience.

Susceptibility is defined as the likelihood for the source water(s) of a public water system to be contaminated at concentrations that would pose a concern. 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, which is the reason for mandatory treatment for all surface water supplies in Illinois. North Chicago's 6,500-foot intake has a low sensitivity and therefore has greater protection from shoreline contaminants due to mixing and dilution. The 1,100-foot intake is moderately sensitive to potential pollution, and although there are no potential sources within North Chicago's

critical assessment zone, there are several within the immediate source water area. Shoreline contaminants in the vicinity of this intake are perceived as an immediate threat to the intake, the combination of the land use, the proximity of storm sewer outfalls, Pettibone Creek and NSSD pumping station add to the susceptibility of this intake. However, it should be stressed that treatment employed by North Chicago is protective of their consumers, as noted by the facility's finished water history. It has been determined that one of the best ways to ensure a safe source of drinking water for North Chicago is to develop a program designed to protect the source water against potential contamination on the local level. Citizens must be aware that activities around the house may have a negative impact on their source water. The main efforts of the immediate community should be an awareness of storm water drains and the direct link to the Lake within the identified Lake Michigan watershed. 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 that relates the proper storage, disposal and use of potential contaminants is necessary to keep the Lake a safe, reliable source of drinking water.

Lake Michigan, as well as all the Great Lakes, has many different organizations and associations that are currently working to either maintain or improve water quality. Since the predominant land use within Illinois' boundary of Lake Michigan watershed is urban, a majority of watershed protection activities in this document is aimed at this purpose.

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, radio-

active material, and can pick up substances resulting from the presence of animals or from human activity.

Source Water Contaminants

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 stormwater 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 stormwater 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 stormwater 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. 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 (1-800-426-4791).

North Chicago Water Facts

Population served	18,950
Metered customers	4,507
Miles of main	67
Number of fire hydrants	516
Water production (average million gallons per day)	5.043
Maximum daily production (million gallons per day)	15

2007 Regulated Contaminants Detected

Lead and Copper Date Sampled: 12/31/2005

Definitions:

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

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

Lead MCLG	Lead Action Level (AL)	Lead 90th Percentile	# Sites Over Lead AL	Copper MCLG	Copper Action Level (AL)	Copper 90th Percentile	# Sites Over Copper AL	Likely Source of Contamination
0	15 ppb	11 ppb	2	1.3 ppm	1.3 ppm	0.074 ppm	0	Corrosion of household plumbing systems; Erosion of natural deposits

Water Quality Test Results

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

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

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

mg/l: milligrams per litre or parts per million - or one ounce in 7,350 gallons of water.

ug/l: micrograms per litre or parts per billion - or one ounce in 7,350,000 gallons of water.

na: not applicable.

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

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water.

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

Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	Units	MCLG	MCL	Violation	Likely Source of Contaminant
Disinfectants & Disinfection By-Products								
Chlorine	12/31/2007	0.9	Not Applicable	ppm	MRDLG =4	MRDL =4		Water additive used to control microbes
Total Haloacetic Acids (HAA5)	10/9/2007	13	12-13	ppb	N/A	60	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes]	7/10/2007	22.5	14.5-22.5	ppb	N/A	80	No	By-product of drinking water chlorination
Inorganic Contaminants								
Barium	10/9/2007	0.018	Not Applicable	ppm	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	10/9/2007	0.78	Not Applicable	ppm	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge
Nitrate-Nitrite	4/6/2006	0.49	Not Applicable	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate (As N)	4/12/2007	0.565	Not Applicable	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	10/9/2007	1.6	Not Applicable	ppb	50	50	No	Discharge from petroleum metal refineries; Erosion of natural deposits
Radioactive Contaminants								
Combined Radium	4/12/2005	6	1.57-6	pCi/L	0	5	No	Erosion of natural deposits
Alpha Emitters	4/12/2005	1.48	0-1.48	pCi/L	0	15	No	Erosion of natural deposits
State Regulated Contaminants								
Sodium	10/9/2007	4.6	Not Applicable	ppm	N/A	N/A	No	Erosion of naturally occurring deposits; used in water softener regeneration

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 the level of sodium in the water.

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of these data may be more than one year old.

Turbidity

Limit (Treatment Technique)	Lowest Monthly % meeting limit	Violation	Source
0.3 NTU	100	No	Soil Runoff
Limit (Treatment Technique)	Highest Single Measurement	Violation	Source
1 NTU	0.19	No	Soil Runoff

Information Statement: Turbidity is a measurement 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 our filtration system and disinfectants.

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, unless a TOC violation is noted in the violations section.