

ANNUAL
**WATER
QUALITY
REPORT**

Water testing performed in 2008



VILLAGE OF
ALGONQUIN



PWS ID#: 111-00-50

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.



Important Health Information

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does Algonquin's Water Come From?

The Village of Algonquin currently draws water from nine wells. Three water treatment plants treat the water for public use. Wells 5, 6, 7, and 11 are all shallow wells at less than 150 feet and are located on the east side of the Fox River. These wells provide the water that is treated at Water Treatment Plant 1, which is on Souwanas Drive.



Wells 8 and 9 are shallow wells at less than 220 feet; they provide water to Water Treatment Plant 2, which is on Wynnfield Drive on the west side of the Fox River in Willoughby Farms Subdivision. Well 10 is a deep well (approximately 1,300 feet) that also provides water for treatment at Water Treatment Plant 2.

Wells 13 and 15 are shallow wells at less than 150 feet; they provide water to Water Treatment Plant 3, which is on the corner of Square Barn Road and Academic Drive on the far west side of town. The total combined design capacity from the three water treatment facilities is 12 million gallons per day. The village is in the planning process to expand Water Treatment Plant 3, which will receive water from deep well sources.

Community Participation

The public is encouraged to attend Algonquin Village Board meetings, which are held at the Village Board Room, 2200 Harnish Drive, Algonquin. The meetings are held on the first and third Tuesday of each month beginning at 8 p.m.



Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

“WELL-INFORMED CUSTOMERS ARE OUR BEST ALLIES.”

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Jason Schutz, Chief Water Operator, at (847) 658-2754, ext. 421.

Source Water Assessment

Based on information obtained in a well site survey published in 1990 by the Illinois EPA, 12 possible problem sites were identified within the survey area of Algonquin. Furthermore, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated several additional sites with ongoing remediation that may be of concern. The Illinois EPA has determined that Algonquin Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data on the wells. The Illinois Environmental Protection Act provides minimum protection zones of 200 feet for Algonquin's wells. The Illinois EPA regulates minimum protection zones.



To further minimize the risk to Algonquin's groundwater supply, the Illinois EPA recommends that three additional activities be assessed. First, the village may wish to enact a "maximum setback zone" ordinance. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to a fixed distance, normally 1,000 feet, from their wells. Algonquin has recently adopted its own set wellhead protection zone ordinance. Second, the water supply staff may wish to revisit their contingency planning documents, if available. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a village will minimize its risk of being without safe and adequate water. Algonquin has a current contingency plan document on file. Finally, the water supply staff is encouraged to review their cross-connection control program to ensure that it remains current and viable. Cross-connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the village. This past year, the Algonquin Water Department has reviewed and updated our cross-connection control program. This ensures that our water system is receiving the best possible protection from contaminants that could be introduced to our system by backpressure or backsiphoning.

To receive a copy of the source water assessment, contact the Algonquin Village Water Department at (847) 658-2754.

Lead and Drinking Water

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 are responsible for providing high-quality drinking water but 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 www.epa.gov/safewater/lead.



What's growing in my pet's water bowl?

Dog and cat owners often notice the appearance of black or pink growths in their pet's water bowl. These growths come from various types of mold in the air—not the water. Similar growths can also be found on showerheads and shower curtains. Wash your pet's water bowl frequently and be sure to have plenty of fresh water available at all times.

Is it safe to drink water from a garden hose?

Substances used in vinyl garden hoses to keep them flexible can get into the water as it passes through the hose. These chemicals are not good for you nor are they good for your pets. Allow the water to run for a short time in order to flush the hose before drinking or filling your pets' drinking containers. There are hoses made with "food-grade" plastic that will not contaminate the water. Check your local hardware store for this type of hose.

What makes water Hard?

If substantial amounts of either calcium or magnesium, both nontoxic minerals, are present in drinking water, the water is said to be hard. Hard water does not dissolve soap readily, so making lather for washing and cleaning is difficult. Conversely, water containing little calcium or magnesium is called soft water.



Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2008	15	0	3	0.95–1.2	No	Erosion of natural deposits
Arsenic (ppb)	2008	10	0	1.09	ND–1.09	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2008	2	2	0.1765	0.1311–0.1765	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2008	[4]	[4]	2.2	0.4–2.2	No	Water additive used to control microbes
Combined Radium (pCi/L)	2008	5	0	1	0.81–2.3	No	Erosion of natural deposits
Fluoride (ppm)	2008	4	4	1.09	0.833–1.09	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2008	60	NA	15.6	15.6–15.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2008	10	10	1	ND–1.499	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	2008	1	1	0.185	ND–0.185	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	30.4	30.4–30.4	No	By-product of drinking water chlorination

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2006	1.3	1.3	1.053	2/40	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2006	15	0	11	4/40	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER SUBSTANCES¹

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Iron (ppm)	2008	1	1	0.08867	ND–0.08867	No	Erosion from naturally occurring deposits
Manganese (ppb)	2008	150	150	22.96	16.87–22.96	No	Erosion of naturally occurring deposits
Sodium (ppm)	2008	NA	NA	36	34–36	No	Erosion of naturally occurring deposits; Used in water softener regeneration

¹ Iron, manganese, and sodium are not currently regulated by the U.S. EPA. However, the state has set MCLs for supplies serving a population of 1,000 or more.

Definitions

AL (Action Level): The concentration of a contaminant that triggers treatment or other required actions by the water supply.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

