

## **2013 Annual Drinking Water Quality Report**

### **Executive Summary**

The Village of Glencoe Water Utility is pleased to provide you with the 2013 annual Consumer Confidence Report. Please take some time to read and understand what the report says. Under federal and state regulations, your Water Department tests hundreds of water quality samples each month. The results for 2013 are excellent. The Glencoe Water Utility once again met every standard for over 100 contaminants tested for each year.

### **Lead in Water**

Ongoing capital improvements at the water plant and in the distribution system help ensure safe and reliable drinking water. One of those improvements was the installation of a pH control system to minimize the corrosive effects of the water and reduce lead levels. Routine monitoring results are better than ever with not one sample exceeding the 15 parts per billion action level for lead.

Lead in water is a major concern for pregnant women, infants and young children. It is important to remember that lead is not in the water we deliver to your home, but can enter the water through your home's lead service line (the underground pipe that connects your home to the water main in the street) or household plumbing that contains lead, so your home could have higher lead levels than what was found during our testing. If your home was built after WWII it is unlikely you have a lead service line. Research shows that the largest contributor to lead levels is usually a lead service line but other sources in the premise's plumbing such as lead-soldered copper pipes (prior to 1986 lead ban), brass fixtures with a high lead content and even scale build-up in old steel pipes that were or are supplied by a lead service can contribute to lead levels as well. Any disruption to plumbing from, for instance, lead service line repairs or replacement or in-home plumbing work can temporarily but significantly increase lead levels. The only way to tell if your water has any lead in it is to have it tested. Local laboratories can provide this through the mail for about \$60. If you want to learn about how to get your water tested, what the Glencoe Water Utility is doing to help reduce lead at the tap, and what you can do to reduce lead exposure in your home, please contact the Water Plant at 847-835-4183 or send an email to [tomw@villageofglencoe.org](mailto:tomw@villageofglencoe.org).

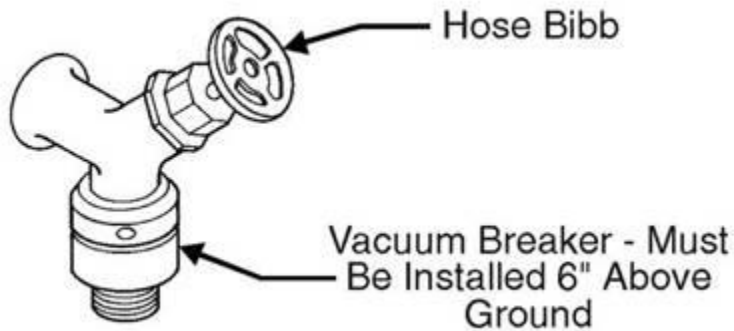
### **Cross Connections**

Cross connections are serious plumbing problems which can cause illness or death. What is a cross connection? A cross connection is a temporary (i.e. garden hose) or permanent (i.e. boiler feed water or underground irrigation system) connection between a potable water supply and a non-potable material. A cross connection can allow water to "backflow". What is backflow? Just as it sounds it is the backwards flow of water from its normal direction. This can occur for a number of reasons: power failure of the pump station; broken water main; and fire hydrant usage. These incidents can cause a reduction or total loss of pressure in the water mains and allow "backflow" to occur that can introduce contamination into the potable water supply through a cross connection. Without proper protection anything connected to the premise supply could potentially enter the potable water supply. This could include toilet tank water, water from pools, ponds and ornamental water features, or chemicals and fertilizers applied by hose sprayers or irrigation systems. If you have an underground sprinkler system you must protect it from backflows with a device called an RPZ. Check with your plumber or irrigation contractor to be sure you have the device installed and operational. RPZ's require an annual inspection to assure reliability.

### **Hose Connection Vacuum Breakers**

**Protect before you connect!**

In fact more than half of all reported backflow incidents occur from the simple garden hose. To protect your and your neighbor's health be sure that each of your connections with a hose thread is protected with a simple device called a hose thread vacuum breaker. These are available at most plumbing supply stores and on the web for around \$5 - \$15. The hose connection vacuum breaker, or HVB, can be installed on your outside faucets to prevent backflow of contaminated water into the potable water supply. An HVB is easy to install as shown in the following illustration. Simply thread the HVB assembly onto the male hose threads of the faucet or hose bibb. Then connect the garden hose onto the male threads of the HVB.



The HVB works to prevent backflow to the water supply by venting water to the atmosphere (onto the ground) when backflow conditions exist. Important: The spring-loaded check valve in the HVB does not allow drainage of water from between the hose bibb and the upper part of the HVB. Thus freeze protection must be provided, just as all outdoor plumbing must be protected under freezing conditions. Hose backflow protection is now required for all new construction by the building code. Typically, freeze-proof hose bibb faucets are used with the HVB device built in. It should be noted that hose backflow protection is only a part of the larger subject of protection against cross-connection hazards. If you want to learn about what the Glencoe Water Utility is doing to help reduce cross connections in your home, please contact the Water Plant at 847-835-4183 or send an email to [tomw@villageofglencoe.org](mailto:tomw@villageofglencoe.org). Remember protection before connection!

**GLENCOE WATER UTILITY CONSUMER CONFIDENCE REPORT**  
**Annual Water Quality Report for the period of January 1 to December 31, 2013**  
 Facility Number: IL0310990

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. We want our valued customers to be informed about their water quality. This year, as in years past, your tap water met all USEPA and state drinking water health standards. For more information regarding this report contact Tom Weathers, 847.835.4183. If you would like to learn more, please feel welcome to attend any of our regularly scheduled village board meetings on the third Thursday of every month at the village hall at 675 Village Ct. The source water assessment for our supply has been completed by the Illinois EPA and information on that is included below.

**Source of Drinking Water**

The source of drinking water used by Glencoe is Surface Water from Lake Michigan. 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, 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. 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 (800-426-4791).

**Source Water Information**

Source Water	Name	Type of Water	Location
INTAKE (00106)	LAKE MICHIGAN	Surface Water	3,300 FT NE PLANT

**Source Water Assessment**

To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of 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>.

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 supplies to be susceptible to potential pollution problems. The very nature of surface water allows contaminants to migrate into the intakes with no protection only dilution, which is the reason for mandatory treatment for all surface water supplies in Illinois. Glencoe's intake is located far enough offshore that shoreline point sources are not considered a factor on water quality. However, at certain times of the year the potential for contamination exists due to storm water runoff and wet-weather flows from the North Shore Channel. If currents are flowing in a northerly direction, contaminants from these flows could migrate to Glencoe's intake and compromise water quality. A correlation between Northbrook's rainfall data and North Shore Channel's discharge dates show the potential effect of these flows on Glencoe's water quality. The proximity to a major shipping lane adds to the susceptibility should there be a spill near the intake.

**2013 Regulated Contaminants Detected**

**Lead and Copper**

Definitions:

Action Level: 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. ALGs allow for a margin of safety.

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 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 1 to 5 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>.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	6/13/2012*	1.3	1.3	0.162	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	6/13/2012*	0	15	5.4	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

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

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

\*Note: The state requires monitoring of these contaminants on a triennial basis. Therefore this data, while accurate, is more than one year old.

**Water Quality Test Results**

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

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 or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's 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.

#### Regulated Contaminants

Disinfectants and Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chlorine	2013	0.8	0.65 - 1	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2013	15	9 – 14.7	No goal for the total	60	ppb	No	By-product of drinking water chlorination.
Total Trihalomethanes (TTHM)	2013	28	20.78 – 28.4	No goal for the total	80	ppb	No	By-product of drinking water chlorination.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Barium	2013	0.022	0.022 – 0.022	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2013	1.1	1.14 – 1.14	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Arsenic	2013	1	1.2 - 1.2	150	150	ppb	No	This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.
Sodium	2013	9	9 - 9	na	na	ppm	No	Erosion from naturally occurring deposits: Used in water softener regeneration.
Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	01/20/2009*	1.11	1.11 – 1.11	0	5	pCi/L	No	Erosion of natural deposits.
Gross alpha excluding radon and uranium	01/20/2009*	3.1	3.1 – 3.1	0	15	pCi/L	No	Erosion of natural deposits.

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

na: not applicable.

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

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

ppm: milligrams per liter or parts per million - or one ounce in 7,350 gallons of 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 this data, while accurate, is more than one year old.

#### Turbidity

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

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Lowest monthly % meeting limit	TT = 0.3 NTU	100%	No	Soil runoff.
Highest single measurement	TT = 1 NTU MAX	0.17 NTU	No	Soil runoff.

NTU: Nephelometric Turbidity Units. A measure of water clarity.

#### Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.

#### Violations Summary Table

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