Village of Fox River Grove Water Quality Report - 2016

This year, as in years in past, your tap water met all U.S. and State Environmental Protection Agency (EPA) drinking water health standards. Our system vigilantly safeguards its groundwater supply, and we are working hard to continue providing the best water possible. This report summarizes the quality of water that we provided in 2016. It includes details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies.

What is a water quality report?
The Illinois EPA requires all communities to provide drinking water quality reports to their customers on an annual basis. They include information on the water system and tables that summarize monitoring data. Consumer awareness and right-to-know were major themes of the 1996 Safe Drinking Water Act Amendments. These amendments confirm the importance of educating the consumer and added new reporting requirements to the operators of community water systems.

Drinking Water Source.
The Village of Fox River Grove uses groundwater provided by four shallow wells constructed in the Silurian Dolomite aquifer at depths ranging from 120 ft. to 140 ft. (An aquifer is a geological formation that contains water). Two of the wells are located at Water Treatment Plant No. 1, the third and fourth wells are located at Water Treatment Plant No. 2. Each well can produce between 400 and 500 gallons per minute.

How is the drinking water treated?
Groundwater is pumped from the wells to the treatment facilities where dissolved iron and manganese are then removed with filters. The oxidized aeration is provided to strip any volatile organic compounds out, to improve taste and odor and to oxidize iron and manganese. Fluoride is added to prevent cavities (A concentration of 1 part per million of fluoride which has shown to reduce cavities by 60%). Chlorine is added for disinfection, along with blended poly-phosphate to inhibit corrosion. Treated water is pumped to the distribution system where water storage is provided in a 500,000-gallon capacity elevated tank located on Algonquin Road. An emergency water main inter-connection with the Village of Lake Barrington provides fire protection back-up.

Required EPA Educational Information:
Drinking water, including bottled water, may reasonably be expected to contain 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 USEPA’s Safe Drinking Water Hotline (1-800-426-4791).

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 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. USEPA/CDC guidelines on appropriate means to strip any volatile organic compounds out, to improve taste and odor and to oxidize iron and manganese. Fluoride is added to prevent cavities (A concentration of 1 part per million of fluoride which has shown to reduce cavities by 60%). Chlorine is added for disinfection, along with blended poly-phosphate to inhibit corrosion.

5. Why does the water have a chlorine taste or smell?
The chlorine content will dissipate.

6. I have low water pressure, what can I do?
If the pressure is low at only a few sinks, remove the aerator from the faucet and inspect for debris that may be obstructing water flow. If the pressure is low throughout your home many times a softener may malfunction and reduce water pressure. Too isolate the softener, close the bypass valve and re-check water pressure. If that does not solve the issue call the Water Department and we will investigate.

7. Do you give tours of your water treatment plant?
Yes, we are proud of our facilities and enjoy giving tours. We encourage citizens to schedule a tour and see where their tap water comes from. Please call Tim Zintl, Operations Manager Water & Sewer Dept. at (847) 639-3170 to make arrangements.

8. Want more information?
More information is available on the Village of Fox River Grove’s website www.foxrivergrove.org. The Village does routine water quality testing. A table of...
results is attached. If you have other questions about this report or concerning your water system, please contact Tim Zintl, Operations Manager, Water & Sewer Dept. at (847) 639-3170. We want our valued customers to be informed about their water quality. Also, feel welcome to attend any of our regularly scheduled Village Board meetings held on the 1st and 3rd Thursday of each month at 6:30 p.m. at the Village Hall, at 305 Illinois Street. Water is a valuable natural resource, please help protect our drinking water and practice good water conservation.

Source Water Assessment Summary
Based on information obtained in the Well Site Survey, published in 1989, fourteen possible problem sites were identified within the survey area of Fox River Grove. Furthermore, information provided by the Leaking Underground Storage Tank and Remedial Project Management Sections of the Illinois EPA indicated several additional sites with ongoing remediations which may be of concern. The Illinois EPA has determined that Fox River Grove's wells are susceptible to contamination. This determination is based on a number of criteria including; 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 400 feet for Fox River Grove's wells. These minimum protection zones are regulated by the Illinois EPA. To further minimize the risk to the groundwater supply, the Illinois EPA recommends that five additional activities be assessed. First, the village may wish to enact a "maximum setback zone" ordinance to further protect their water supply. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to 1,000 feet from their wells. Second, the water supply staff may wish to revisit their contingency planning documents. Contingency planning documents are a primary means to ensure that, through emergency preparedness, the village will minimize their risk of being without safe and adequate water. Third, 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. Fourth, the village should obtain aquifer property data and groundwater flow direction information so the recharge areas for the wells can be mapped. This information can be obtained by completing pump tests on the wells and mass water level measurements on wells finished in the aquifers utilized by the wells. Finally, the Illinois EPA recommends that the village investigate additional source water protection management options to address land use activities within the recharge areas, when developed. Specifically, these management options must include potential impacts from point and nonpoint sources of groundwater contamination.

Elevated levels of lead, if present 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](http://www.epa.gov/safewater/lead).

Water Quality Test Results:
**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known 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. MRDLGs do not reflect the benefits for 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 of 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 average for monthly samples.
- **ppm:** milligrams per liter or part per million - or one ounce in 7,350 gallons of water.
Lead and Copper

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

<table>
<thead>
<tr>
<th>Lead and Copper</th>
<th>Date Sampled</th>
<th>MCLG</th>
<th>Action Level (AL)</th>
<th>90th Percentile</th>
<th># Sites Over AL</th>
<th>Units</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>2016</td>
<td>1.3</td>
<td>1.3</td>
<td>0.649</td>
<td>0</td>
<td>ppm</td>
<td>N</td>
<td>Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.</td>
</tr>
<tr>
<td>Lead</td>
<td>2016</td>
<td>0</td>
<td>15</td>
<td>5.15</td>
<td>0</td>
<td>ppb</td>
<td>N</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits.</td>
</tr>
</tbody>
</table>

Water Quality Test Results

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

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

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system on multiple occasions.

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.

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.

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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

na: not applicable.

mrem: millirems per year (a measure of radiation absorbed by the body)

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.

Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.
### Regulated Contaminants

<table>
<thead>
<tr>
<th>Disinfectants and Disinfection By-Products</th>
<th>Collection Date</th>
<th>Highest Level Detected</th>
<th>Range of Levels Detected</th>
<th>MCLG</th>
<th>MCL</th>
<th>Units</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine</td>
<td>12/31/2016</td>
<td>0.5</td>
<td>0.26 - 0.84</td>
<td>MRDLG = 4</td>
<td>MRDL = 4</td>
<td>ppm</td>
<td>N</td>
<td>Water additive used to control microbes.</td>
</tr>
<tr>
<td>Haloacetic Acids (HAA5)</td>
<td>2016</td>
<td>6</td>
<td>0 - 5.6</td>
<td>No goal for the total</td>
<td>60</td>
<td>ppb</td>
<td>N</td>
<td>By-product of drinking water disinfection.</td>
</tr>
<tr>
<td>Total Trihalomethanes (TTHM)</td>
<td>2016</td>
<td>44</td>
<td>5.97 - 43.6</td>
<td>No goal for the total</td>
<td>80</td>
<td>ppb</td>
<td>N</td>
<td>By-product of drinking water disinfection.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inorganic Contaminants</th>
<th>Collection Date</th>
<th>Highest Level Detected</th>
<th>Range of Levels Detected</th>
<th>MCLG</th>
<th>MCL</th>
<th>Units</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium</td>
<td>07/21/2015</td>
<td>0.136</td>
<td>0.0935 - 0.136</td>
<td>2</td>
<td>2</td>
<td>ppm</td>
<td>N</td>
<td>Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.</td>
</tr>
<tr>
<td>Fluoride</td>
<td>07/21/2015</td>
<td>0.925</td>
<td>0.826 - 0.925</td>
<td>4</td>
<td>4.0</td>
<td>ppm</td>
<td>N</td>
<td>Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.</td>
</tr>
<tr>
<td>Manganese</td>
<td>07/21/2015</td>
<td>8.94</td>
<td>0 - 8.94</td>
<td>150</td>
<td>150</td>
<td>ppb</td>
<td>N</td>
<td>This contaminant is not currently regulated by the USEPA. However, the state regulates. Erosion of natural deposits.</td>
</tr>
<tr>
<td>Sodium</td>
<td>07/21/2015</td>
<td>105</td>
<td>55.2 - 105</td>
<td>ppm</td>
<td></td>
<td></td>
<td>N</td>
<td>Erosion from naturally occurring deposits: Used in water softener regeneration.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radioactive Contaminants</th>
<th>Collection Date</th>
<th>Highest Level Detected</th>
<th>Range of Levels Detected</th>
<th>MCLG</th>
<th>MCL</th>
<th>Units</th>
<th>Violation</th>
<th>Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Radium 226/228</td>
<td>01/27/2015</td>
<td>1.5</td>
<td>1.5 - 1.5</td>
<td>0</td>
<td>5</td>
<td>pCi/L</td>
<td>N</td>
<td>Erosion of natural deposits.</td>
</tr>
<tr>
<td>Volatile Organic Contaminants</td>
<td>Collection Date</td>
<td>Highest Level Detected</td>
<td>Range of Levels Detected</td>
<td>MCLG</td>
<td>MCL</td>
<td>Units</td>
<td>Violation</td>
<td>Likely Source of Contamination</td>
</tr>
<tr>
<td>cis-1,2-Dichloroethylene</td>
<td>2016</td>
<td>1</td>
<td>1.83 - 1.83</td>
<td>70</td>
<td>70</td>
<td>ppb</td>
<td>N</td>
<td>Discharge from industrial chemical factories.</td>
</tr>
</tbody>
</table>