

2009 Water Quality Report for City of Stephenson

This report covers the drinking water quality for Stephenson, for the calendar year 2009. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards.

Residents of the City of Stephenson get their drinking water from 3 wells that supply a 50,000 gallon elevated storage tank. The wells are connected to approximately 9 miles of distribution piping consisting of 3, 4, 6 and 8 inch water mains.

Well # 1 is no longer serving the system-used for non-potable purposes. Well # 2 is located at Erickson Park. It was constructed in 1954 and is 343' deep-was upgraded in 1995 with a 20 hp 200 gpm submersible pump-is a flowing artesian well and is now piped to the treatment facility at N201 Section Street. Well # 3 was constructed in 1967 and is 385' deep. It was upgraded in 2008 with a pitless adaptor and a 50 hp 400 gpm submersible pump. There is a 150 KW generator for emergency pumping. In 2008 we drilled Well #4 (near #3) – it has a 50 hp submersible pump also.

All 3 wells draw from an aquifer known as Munising Sandstone that is 210' to 225' thick with a layer of granite beneath it. The City water supply contains an appreciable level of iron. This is treated by the addition of sodium hexametaphosphate to sequester iron in the water. Chlorine is then added to destroy disease-causing microorganisms. Chlorine also improves water quality by reacting with ammonia, iron, manganese, sulfide, and some organic substances. The average hardness of all 3 wells is 14 grains. This is considered hard water and local softening is recommended at these levels.

The State performed an assessment of our source water in 2003 to determine the relative potential of contamination. The susceptibility is rated as high for #2, and #3 (#4 information yet to be updated). For more information about your water, contact Ken Marklein at the City Hall at 906-753-4769.

- **Contaminants and their presence in 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 **EPA's Safe Drinking Water Hotline (800-426-4791)**.
- **Vulnerability of sub-populations:** 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 systems 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).

- **Sources of drinking water:** The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from 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 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 and residential uses.
 - * **Radioactive contaminants**, which are naturally occurring or be the result of oil and gas production and mining activities.
 - * **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.

STATEMENT ABOUT LEAD: 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. Stephenson is 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 <http://www.epa.gov/safewater/lead>.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2009 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 – December 31, 2009. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old.

Terms and abbreviations used below:

Water Supplier: Define only the terms you use in the table below. Delete any you don't use.

- **Maximum Contaminant Level Goal (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 (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 (MRDL):** means 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 (MRDLG):** means 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.
- **N/A:** Not applicable **ND:** not detectable at testing limit **ppb:** parts per billion or micrograms per liter **ppm:** parts per million or milligrams per liter **pCi/l:** picocuries per liter (a measure of radioactivity).
- **Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

| Regulated Contaminant | MCL | MCLG | Level Detected | Sample Date | Violation Yes / No | Typical Source of Contaminant |
|--|--------------|-----------------------------|---------------------------|----------------------------|--|--|
| Fluoride (ppm) | 4 | 4 | 0.12 | 8/09 | No | Erosion of natural deposits |
| Arsenic (ppb) | 50 | 50 | 2.0 | 7/08 | No | Erosion of natural deposits. |
| | | | | | | |
| Chlorine | MRDL | MRDLG | 0.34 avg. (0.2 to 0.6) | Several times a month | No | Water additive used to control microbes. |
| | 4 | 4 | | | | |
| | | | | | | |
| Radioactive Contaminant | MCL | MCLG | Level Detected | Sample Date | | |
| Alpha emitters (pCi/L) | 15 | | 6.05 – 10.89 | 6/00 | No | Erosion of natural deposits. |
| Ra226/Ra228(pCi/L) | 5 | | 3.66 | 6/00 | No | Erosion of natural deposits. |
| | | | | | | |
| Special Monitoring and Unregulated Contaminant | | | Level Detected | Sample Date | Typical Source of Contaminant | |
| Sodium (ppm) | | | 6 | 8/09 | No | |
| | | | | | | |
| Contaminant Subject to an Action Level | Action Level | 90% of Samples ≤ This Level | Sample Date | Number of Samples Above AL | Typical Source of Contaminant | |
| Lead (ppb) | 15 | 5 | 8/09 | 0 | Corrosion of household plumbing systems. | |
| Copper (ppb) | 1300 | 250 | 8/09 | 0 | Corrosion of household plumbing systems. | |

For more information about your water, contact Ken Marklein at the City Hall at 906-753-4769. For more information about safe drinking water, visit the U.S. Environmental Protection Agency at www.epa.gov/safewater/.