City of Greenville
2010 Water Quality Report

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

The City of Greenville has two sources of water, the Greenville Creek and nine wells located East and South of the treatment plant. Sixty percent of the water we treat is drawn from the Greenville Creek. During periods of high turbidity in the stream, groundwater from the wells is utilized. The City of Greenville has an endorsed Wellhead Protection Plan and Source Water Assessment Plan.

Last year, as in years past, your tap water met all EPA and state drinking water health standards. We have a current, unconditioned license to operate our water system. If you have any questions about this report or concerning your water utility, please contact Gary J. Evans II (Water Superintendent) or Craig Spitler (Chemist/Biologist) at 548-2415 between 8am and 4pm Monday through Friday. If you want to learn more, please attend any of our regularly scheduled City Council meetings. They are held on the first and third Tuesday of each month at 7:30 pm. The meetings are held at the Municipal Building located at 100 Public Square.

The City of Greenville Water Treatment Plant routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table (page 2) shows the results of our monitoring for the period of January 1st to December 31st, 2010. We also test for many other chemicals annually, but none of these are detectable in our water supply.

Under the Stage 2 Disinfectants Byproducts Rule *(D/DBPR),* our public water system was required by USEPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE, and is intended to identify locations selected in our distribution system with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DBPR beginning in 2013 Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water.

Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfection byproducts in drinking water, including both TTHMs and HAA5's.

In the table on page 2 you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Parts per million (ppm) or Milligrams per liter (mg/l) – one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (µg/L) – one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Less Than – <

Nephelometric Turbidity Unit (NTU) – Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person. It is also a good indicator of the effectiveness of the filtration system.

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

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed.

Maximum Residual Disinfectant Goal (MRDG) - The level of a residual disinfectant below which there is no known or expected risk to health

N/A - not applicable

Water Quality Data Table

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Inorganic Contaminants							
Fluoride (ppm)	4.0	4.0	0.27	0.27	No	2010	Water additive which promotes strong teeth; erosion of natural deposits.
Copper (ppm)	1.3	AL = 1.3	0.029	0 - 0.554	No	2010	Corrosion of Household plumbing.
	Zero out of twenty samples was found to have copper levels in excess of the copper action level of 1.3 ppm.						
Disinfection By-Products							
Total Trihalomethanes TTHMs (ppb)	n/a	80	55.6	28.8 – 82.1	No	2010	By-product of drinking water chlorination.
Haloacetic Acids HAA5 (ppb)	n/a	60	23.4	17.1 - 34	No	2010	By-product of drinking water chlorination.
Atrazine	3	3	0.24	0.05 – 0.38	No	2010	Run off from herbicide used on row crops.
Turbidity							
Turbidity (NTU)	0	TT = 1 NTU TT = 95% of samples <0.3 NYU	0.12	0.02 – 0.11	No	2010	Soil runoff.
Unregulated Contaminants							
Bromodichloromethane (ppb)	n/a	n/a	3.74	n/a	No	2010	By-product of drinking water chlorination.
Chloroform (ppb)	n/a	n/a	8.59	n/a	No	2010	By-product of drinking water chlorination.
Dibromochloro-Methane	n/a	n/a	1.15	n/a	No	2010	By-product of drinking water chlorination.
Chloride (ppm)	n/a	n/a	28.3	n/a	No	2010	Erosion of natural deposits.
Sulfate (ppm)	n/a	n/a	63.5	n/a	No	2010	Erosion of natural deposits.
Sodium (ppm)	n/a	n/a	15	n/a	No	2010	Erosion of natural deposits.
Barium (ppm)	n/a	n/a	56.7	n/a	No	2010	Erosion of natural deposits.

Contaminants (Units)	MRDLG	MRDL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Residual Disinfectants							
Total Chlorine (ppm)	4	4	0.91	0.20- 1.64	No	2010	Water additive used to control microbes.

License to Operate Status

We have a current, unconditioned license to operate our water system.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

Why are there contaminants in my drinking water?

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791. The sources of drinking water include rivers, lakes, streams, ponds, reservoir, springs and wells. As water travels over the surface of the land or through the ground it dissolves naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

For the purpose of source water assessments, all surface waters are considered to be susceptible to contamination. By their nature, surface waters are open systems with no confining layer to impede contaminant or pathogen movement and have relatively short travel times from source to intake. Based on the information compiled, the Greenville Source Water Protection Area is susceptible to contamination from agriculture, residential, and commercial sources, and from accidental releases and spills. It is important to note that this assessment is based on available data, and therefore may not reflect current conditions in all cases. Water quality, land uses, and other activities that are potential sources of contamination may change with time.

Contaminants that may be present in source water include:

A. *Biological contaminants,* such as viruses and bacteria, which may come from untreated sewage, septic systems, agricultural livestock operations, and wildlife.
B. *Inorganic contaminant*, 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.
C. *Pesticides and herbicides,* which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
D. *Organic chemicals,* including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
E. *Radioactive materials,* which can be naturally occurring or be the result of oil and gas production and mining activities. Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation.

Lead in 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. The City of Greenville Water department 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 two 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, information is available from the Safe Drinking Water Hotline at

http://www.epa.gov/safewater/lead.

Cryptosporidium

The City of Greenville Water Department monitored for Cryptosporidium in the source water during 2010. Cryptosporidium was detected in 7 samples of 24 collected from the raw water. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Important Telephone Numbers

Greenville Water Plant……..548-2415

Utilities Office……...……548-1815

Safety/Service Director……..548-1819

City Engineer……..548-4930