Annual Drinking Water Quality Report
City of Clemson
March 2010

We're 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. Our water source is the U.S. Army Corps of Engineers Hartwell Lake Reservoir. The water from Lake Hartwell Reservoir is purchased from Anderson Regional Joint Water System (ARJWS).

We're pleased to report that our drinking water is safe and meets federal and state requirements.

This report shows our water quality and what it means to you, the consumer.

If you have any questions about this report or concerning your water utility, please contact Tom Luke or Benjie McGill at 653-2046. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled City Council meetings. They are held on the first and third Monday of each month at City Hall. The time of the meeting is posted at City Hall and published in the local newspaper.

The City of Clemson and ARJWS routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1 to December 31, 2009. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

In this table 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:

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

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: One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l): One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l): One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L): Picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr): Measure of radiation absorbed by the body.

Million Fibers per Liter (MFL): Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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.

Action Level: 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: The "Maximum Allowed" (MCL) is 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: The "Goal" (MCLG) is 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.

Running Annual Average: RAA

The following is a partial list of a total of 76 contaminates that are monitored in your drinking water. This table shows only contaminants that were detected and what amount was detected. It also shows the maximum amount allowed by law (MCL) and a maximum goal amount (MCLG). The table also shows if a violation occurred.

TEST RESULTS

Contaminant	Violation Y/N	Level or Average Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
*** Turbidity**	N	Average .07 Highest .18 ARJWS	NTU	<.10	.5	Soil runoff
TOC (Total Organic Carbon)	N	.5 – 1.9 mg/l Removal ARJWS	mg/l	TT	TT	Naturally present in the environment

Volatile Organic Contaminants

TTHM **Total Trihalomethanes**	N	Avg = .054 mg/l Range = .023-.095 mg/l ARJWS	mg/l	0	.08 mg/l	By product of drinking water chlorination
HAA **(Haloacetic Acids)**	N	Range = .013-.053 mg/l RAA = .031 mg/l ARJWS	mg/l	0	.06 mg/l	By product of drinking water chlorination
Chlorine	N	RAA = 1..27 mg/l Range = .9 - 1.7 mg/l ARJWS	mg/l			Water additives used to control microbes

Inorganic Contaminants

Cadmium	N	ARJWS = <.00010 ppm	ppm	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints.
*** Copper**	N	90th percentile .230 CLEMSON 30 sites sampled in 2007 Range = .0094 - .33	ppm	1.3	AL=1.3 No sites over action level	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives Range of Detection = 0.0094-0.33 Year 2007
*** Fluoride**	N	<.10 ppm AJRWS	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
*** Lead**	N	90th percentile 6.4 ppb CLEMSON 30 sites sampled in 2007 0 > AL	ppb	0	AL=15 No sites over action level	Corrosion of household plumbing systems, erosion of natural deposits Range of Detection = ND-13 Year 2007

Mercury	N	Not Detected ARJWS	ppb	2	2	Erosion of natural deposits, discharge from factories
Nitrate (as Nitrogen)	N	.Avg = .15 ppm ARJWS	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite	N	Not Detected ARJWS	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Radioactive Contaminants

Combined Radium 2001	N	Not Detected ARJWS	pci/l	0	5	Erosion of Natural deposits

Water Quality Table Footnotes

Microbiological Contaminants

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. No Coliforms were found in any samples during this period.

Fecal Coliform and E. coli: Fecal Coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal waste. Microbes in these wastes can cause short term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems. No Fecal Coliform or E. coli were found in any samples during this period.

Copper: The data is from The City of Clemson's most recent test period, June 2007 –Sept 2007 and shows the 90th percentile results. No samples had a level greater than the action level of 1.3mg/l.

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. The City of Clemson 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 drinking 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.

Fluoride: Fluoride level is controlled at approximately 0.11 ppm

Turbidity: Turbidity is a measure of clarity of the water. It is measured in Nephelometric Turbitity Units. We monitor Turbitity because it is a good indicator of the effectiveness of the filtration system. A turbidity of 5 NTU is just noticeable to the average person.

Trihalomethanes: Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.

Polychlorinated Biphenyls (PCBs): PCBs have been a concern in the Clemson area for a number of years. PCBs have been found in Lake Hartwell. They were introduced into the lake by an industrial operation that used this organic compound as insulation material in electrical transformers. PCBs are

extremely persistent in the environment because they do not break down into new and less harmful chemicals. Exposure to PCBs can cause liver damage. Fortunately, PCBs settle to the bottom of the lake, and our drinking water is drawn from near the surface. PCBs were tested for and not detected in the drinking water.

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 constituents have been detected. The EPA has determined that your water IS SAFE at these levels.
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.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Nitrates: As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office at 653-2046 if you have questions.

The City of Clemson Utilities Department works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future.