

ANNUAL  
WATER  
QUALITY  
REPORT

*Water testing performed in 2008*



*Presented By:*

CITY OF ST. AUGUSTINE

PWS ID#: 2550210

## Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

## Substances That Could Be in Water

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 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, urban stormwater 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 stormwater runoff, and septic systems.

**Radioactive Contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

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

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 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 (800) 426-4791.

## Water Source

Our water source is groundwater from five wells, one of which withdraws from the Surficial Aquifer and four of which withdraw from the Floridan Aquifer.

The Department of Environmental Protection has performed a Source Water Assessment on our system in 2008. These assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells (or surface water intakes). Potential sources of contamination identified include underground petroleum storage tanks, dry cleaning facilities, and wastewater treatment plants. There are two potential sources of contamination identified for this system, both with moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program Web site at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp) or they can be obtained from Tom Wallace, Supervisor of Water Treatment, by calling (904) 825-1044.

“WELL-INFORMED CUSTOMERS ARE OUR BEST ALLIES.”

## How Is My Water Treated and Purified?

Our water treatment process includes lime softening, settling, recarbonation, filtration, and chloramine disinfection. Beginning in July 2008, the City of St. Augustine began the operation of a new Low Pressure Reverse Osmosis/Nanofiltration Treatment Plant. This new plant is capable of treating 2 million gallons of water per day. The treated water from this operation is blended with the water treated from our Lime Softening Plant.



## Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.



## Questions?

For more information about this report, or for any questions relating to your drinking water, please call Tom Wallace, Supervisor of Water Treatment, at (904) 825-1044.

## Lead and 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. We are 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

## Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water, if you get your recommended eight glasses a day.



### What's growing in my pet's water bowl?

Dog and cat owners often notice the appearance of black or pink growths in their pet's water bowl. These growths come from various types of mold in the air—not the water. Similar growths can also be found on showerheads and shower curtains. Wash your pet's water bowl frequently and be sure to have plenty of fresh water available at all times.

### Is it safe to drink water from a garden hose?

Substances used in vinyl garden hoses to keep them flexible can get into the water as it passes through the hose. These chemicals are not good for you nor are they good for your pets. Allow the water to run

for a short time in order to flush the hose before drinking or filling your pets' drinking containers. There are hoses made with "food-grade" plastic that will not contaminate the water. Check your local hardware store for this type of hose.

### How long can I store drinking water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

### How much water is lost to a dripping faucet?

Dripping faucets waste a precious resource and cost you money. As an example, if you have a faucet that drips 60 times a minute, this adds up to over 3 gallons each day or 1,225 gallons each year.



## Sampling Results

The City of St. Augustine routinely monitors for contaminants in your drinking water according to federal and state laws, rules, and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2008. Data obtained before January 1, 2008, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

### PRIMARY REGULATED CONTAMINANTS

#### Microbiological Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	HIGHEST MONTHLY PERCENTAGE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
<b>Total Coliform Bacteria</b> <sup>1</sup> (% positive samples)	01/08 thru 12/08	No	3.5%	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment

#### Radiological Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED <sup>2</sup>	RANGE OF RESULTS <sup>2</sup>	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
<b>Radium 226 + 228 [Combined Radium]</b> (pCi/L)	04-08	No	1.8	1.2–1.8	0	5	Erosion of natural deposits

#### Inorganic Contaminants

<b>Barium</b> (ppm)	04-08	No	0.0079	0.0076–0.0079	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
<b>Cyanide</b> (ppb)	04-08	No	1.4	ND–1.4	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
<b>Fluoride</b> (ppm)	04-08	No	0.45	NA	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
<b>Nitrite [as Nitrogen]</b> (ppm)	04-08	No	0.019	0.017–0.019	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Sodium</b> (ppm)	04-08	No	30	29–30	NA	160	Salt water intrusion, leaching from soil

#### Synthetic Organic Contaminants including Pesticides and Herbicides

<b>Di(2-ethylhexyl) Phthalate</b> (ppb)	04-08	No	1.3	0.84–1.3	0	6	Discharge from rubber and chemical factories
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#### Stage 1 Disinfectants and Disinfection By-Products

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED <sup>3</sup>	RANGE OF RESULTS <sup>3</sup>	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION
<b>Chloramines</b> (ppm)	01-08 thru 12-08	No	1.91	ND–5.2	[4]	[4.0]	Water additive used to control microbes
<b>Haloacetic Acids (five) [HAA5]</b> (ppb)	Quarterly 2008	No	11.8	1.3–31.1	NA	60	By-product of drinking water disinfection
<b>TTHM [Total trihalomethanes]</b> (ppb)	Quarterly 2008	No	14.1	6–27.9	NA	80	By-product of drinking water disinfection

## Lead and Copper (Tap water samples were collected from sites throughout the community)

CONTAMINANT AND UNIT OF MEASUREMENT	DATE OF SAMPLING (MO./YR.)	AL VIOLATION (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
<b>Copper [tap water]</b> (ppm)	06-08 thru 08-08	No	0.037	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<b>Lead [tap water]</b> (ppb)	06-08 thru 08-08	No	6.8	3	0	15	Corrosion of household plumbing systems; erosion of natural deposits

<sup>1</sup>As required when a presence of coliform was detected, repeat sampling was performed, at the sample site where the coliform was detected and at a sample site upstream and downstream from the sample site. No additional total coliform or fecal coliform were detected.

<sup>2</sup>Results in the Level Detected column for radiological contaminants, inorganic contaminants, and synthetic organic contaminants including pesticides and herbicides are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

<sup>3</sup>For chloramines the level detected is the the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. For haloacetic acids or TTHM, the level detected is the highest RAA, computed quarterly, of quarterly averages of all samples collected if the system is monitoring quarterly or is the average of all samples taken during the year if the system monitors less frequently than quarterly. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations, including Initial Distribution System Evaluation (IDSE) results as well as Stage 1 compliance results.

## Definitions

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

**IDSE (Initial Distribution System Evaluation):** An important part of the Stage 2 Disinfection Byproducts Rule (DBPR). The IDSE is a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). Water systems will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data,

to select compliance monitoring locations for the Stage 2 DBPR.

**MCL (Maximum Contaminant Level):** 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.

**MCLG (Maximum Contaminant Level Goal):** 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.

**MRDL (Maximum Residual Disinfectant Level):** 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.

**MRDLG (Maximum Residual Disinfectant Level Goal):** 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.

**ND (Not detected):** Indicates that the substance was not found by laboratory analysis.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part

substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

