

Working Hard For You

Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (USEPA) is responsible for setting national limits for hundreds of substances in drinking water and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports to the USEPA if they were detected in the drinking water. USEPA uses this data to ensure that consumers are receiving quality drinking water.

This publication conforms to the regulation under SDWA requiring water utilities to provide detailed water quality information to each of their customers annually. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.



Augusta-Richmond Utilities Department
2822 Central Avenue
Augusta, Georgia 30909

We have completed a source water assessment and a groundwater protection program, but because of security reasons we are prohibited from making them available to the public at large. If you need to find out more about the source water assessment or more information about this report, or for any questions relating to your drinking water, please feel free to contact:

Mr. Brantley Kuglar, Water Production Superintendent, at (706) 842-1925
Ms. Brenda Johnson, Lab Manager, at (706) 821-4237.

We would like to extend our appreciation to Joanna Williams and the following community organizations for their support and their photo contributions to this brochure: Augusta Museum of History - www.augustamuseum.org and The Family Y - www.thefamilyy.org



ANNUAL Water Quality REPORT



Water testing
performed in 2005

Benchmark 2010 -Past the Halfway Mark

In the year 2000, we at Augusta Utilities Department adopted a goal, which we designated as Benchmark 2010. That goal is stated as follows- "By the year 2010, become a preferred water and service provider. Become a utility from which other systems will want to learn, because of the customer service value our department adds to the community." In 2005, we reached the halfway point of our goal. The most visible results of our efforts are the Brown Road 3 million gallon elevated storage tank and the new water treatment plant on Tobacco Road. In 2006, we will begin the expansion at the Highland Avenue water treatment plant and at the Raw Water Pumping Station on the Canal. In January of 2005, we began our Augusta Leadership Training/Best Management Practices training sessions for 140 of our employees who have supervisory responsibility. Our Benchmark 2010 goal involves improving our personnel resources as well as our equipment and facility resources to provide the best service to you, our customers.

N. Max Hicks, P.E.,
Director,
Augusta-Richmond
Utilities Department



Quality Drinking Water Is Not Only Our Business, It Is Our Commitment

Once again we are proud to present to our valued customers, our annual water quality report. This report covers all testing completed from January 1, through December 31, 2005. We are happy to report that we met or exceeded all state and federal drinking water regulations. As always, we are committed to delivering to you only the best quality drinking water. To satisfy that goal, we remain ever vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

How Is My Water Treated And Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our reservoir and sent to a mixing tank where chlorine is added to pre-disinfect the water. Then, aluminum sulfate and polymer are added to the mixture. The addition of these substances cause small particles to adhere to one another (called "floc") making them heavy enough to settle out as the water slowly moves from one end of the basin to the other. At the end of the basin, the clear water travels over weirs and into flumes that take the water to the filters. The water is then filtered through layers of anthracite, gravel and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again as a precaution against any bacteria that could form in the distribution system. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, lime (used to adjust the final pH and alkalinity), fluoride (used to prevent tooth decay) and a corrosion inhibitor (used to protect distribution system pipes) are added before the water is pumped to sanitized, underground clear wells, water tanks and into your home or business.

Where Does Our Water Come From?

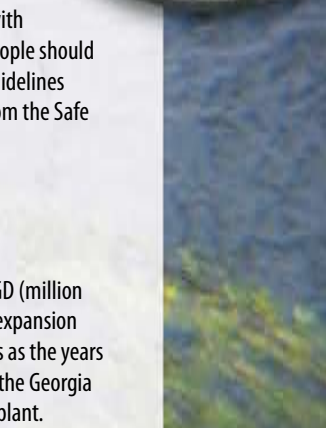
The City of Augusta water customers are very fortunate because we enjoy an abundant water supply from 2 sources. The Highland Avenue Water Treatment Facility draws water from the Savannah River, which is pumped via the Historic Augusta Canal Pumping Station to our reservoirs, which hold about 125 million gallons of water. Our third water source is from the Crutaceous Aquifer hundreds of feet below ground in south Augusta. Combined, our treatment facilities provide roughly 15.5 billion gallons of clean drinking water every year for our customers. Our second water source comes from our new Max Hicks Plant on Tobacco Road which gets water from the Savannah River also and provides 15 million gallons of water to our customers in south Richmond County.

Health Information For Those With Special Needs

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. 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 (800-426-4791).

Big Things Happening

There are big things happening here at Augusta Utilities. First, the new Max Hicks plant went online which will treat 15 MGD (million gallons a day) for our customers in south Augusta. The Highland Avenue plant is getting a new facelift with upgrades and expansion which will furnish our customers with an additional 15 million gallons a day. Our water system keeps receiving more awards as the years pass and 2005 was no exception. We won the "Gold" Award for the Highland Avenue surface water plant for 2005 given by the Georgia Water and Pollution Control Association for excellence in water quality. This was the 4th straight year for the surface water plant.



What's In My Water?

We are pleased to report that during the past year, the water delivered to your home or business met or exceeded all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water during 2005. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the USEPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

REGULATED SUBSTANCES				GROUND WATER	HIGHLAND PLANT	MAX HICKS PLANT		
SUBSTANCE (units)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED LOW-HIGH	AMOUNT DETECTED LOW-HIGH	AMOUNT DETECTED LOW-HIGH	VIOLATION	TYPICAL SOURCE
Fluoride (ppm)	2005	4	4	.23-1.3	.61-1.20	.37-1.3	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids (HAAs) (ppb)	2005	60	N/A	0-24	28-72.5	0-24	No	By-product of drinking water disinfection
Nitrate (ppm)	2005	10	10	0.54-2.0	N/D	N/D	No	Runoff from fertilizer user; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (ppm)	2005	TT	N/A		1.2-1.6	1.2-1.7	No	Naturally present in the environment
THMs (Total Trihalomethanes) (ppb)	2005	80		0-28.8	31.9-64.4	0-28.8	No	By-product of drinking water disinfection
Turbidity (NTU)	2005	TT		N/A	.10-.45		No	Soil runoff
<i>Tap water samples were collected for lead and copper analysis from 50 homes throughout the service area</i>								
SUBSTANCE (units)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90th Percentile)	HOMES ABOVE ACTION LEVEL	AMOUNT DETECTED VIOLATION		TYPICAL SOURCE
Copper (ppb)	2005	1,300	1,300	120	0	No		Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2005	15	0	2.5	0	No		Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

*Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, 100% of all samples taken to measure turbidity met water quality standards.



Table Definitions

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

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 contamination.

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.

N/A: Not applicable.

N/D: Not detected.

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

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

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

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water.

Drinking Water Tests

To ensure that tap water is safe to drink, the USEPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establishes 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 these contaminants does not necessarily indicate that the water poses a health risk.



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 can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and ground water from soil. Inhalation of radon gas has been linked to lung cancer, however, the effects of radon ingested in drinking water are not yet clear. Augusta's drinking water has been tested for radon and found to not have any detectable levels.

New Arsenic Regulation

Arsenic contamination of drinking water sources may result from either natural or human activities. Volcanic activity, erosion of rocks and minerals, and forest fires are natural sources that can release arsenic into the environment. Although about 90 percent of the arsenic used by industry is for wood preservative purposes, it is also used in paints, drugs, dyes, soaps, metals, and semiconductors. Agricultural applications, mining, and smelting also contribute to arsenic releases. Arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur (inorganic arsenic); or combined with carbon and hydrogen (organic arsenic). Organic forms are usually less harmful than inorganic forms.

Low levels of arsenic are naturally present in water—about 2 parts arsenic per billion parts of water (ppb). Thus, you normally take in small amounts of arsenic in the water you drink. Some areas of the country have unusually high natural levels of arsenic in rock, which can lead to unusually high levels of arsenic in water.

In January 2001, the U.S. EPA lowered the arsenic maximum contaminant level (MCL) from 50 to 10 ppb in response to new and compelling research linking high arsenic levels in drinking water with certain forms of cancer. All water utilities are required to implement this new MCL starting in 2006.

Removing arsenic from drinking water is a costly procedure but well worth the expenditure considering the health benefits. For a more complete discussion visit U.S. EPA's arsenic Web site at www.epa.gov/safewater/arsenic.html.

About our Violation

During September of 2005, we had a sampling mishap that resulted in a small number of water samples testing positive for total coliform bacteria. All sample sites were immediately retested along with other sites in the area, and found to be negative. We expect no more problems of this sort, and we want to emphasize that at no time was our water quality compromised. Results of all our analysis have been properly recorded as required by state and federal law. We do not believe that missing this monitoring requirement had any impact on public health and safety, and steps were taken to ensure that safeguards for monitoring and reporting are in place and this scenario will not be repeated.



Lead in Drinking Water

Lead is a naturally occurring element in our environment. Consequently, our water supply is expected to contain small, undetectable amounts of lead. However, most of the lead in household water usually comes from the plumbing in your own home, not from the local water supply. EPA estimates that more than 40 million U.S. residents use water that can contain lead in excess of EPA's Action Level of 15 ppb.

Lead in drinking water is a concern because young children, infants and the unborn appear to be particularly vulnerable to lead poisoning. A dose that would have little effect on an adult can have a big effect on a small body. On average, it is estimated that lead in drinking water contributes between 10 and 20 percent of total lead exposure in young children.

All kinds of water, however, may have high levels of lead. We maintain our drinking water supply at an optimum pH and mineral content level to help prevent corrosion in your home's pipes. To reduce lead levels in your drinking water you should flush your cold-water pipes by running the water until it becomes as cold as it will get (anywhere from 5 seconds to 2 minutes or longer) and use only water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead.

For more information, please contact National Lead Information Center (800-LEAD-FYI) and the Safe Drinking Water Hotline (800-426-4791).

Cryptosporidium in Drinking Water

Cryptosporidium is a microbial parasite 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 and/or finished water indicates the presence of these organisms. Current test methods do not allow 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 within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised 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. In 1999, Augusta Utilities participated in the USEPA ICR Program where our water was tested for microbial parasites and our source water results were negative. In 2005, our finished tap was also tested by the state and found to be free of microbial parasites.