Annual Water Quality Report

January 2014 – December 2014

City of Milledgeville Water System

Why This Report?

The City of Milledgeville Water System is committed to delivering to you, our customer, water that meets or exceeds federal and state quality standards. We are pleased that this 2014 Water Quality Report shows we are doing that. Our priority is to deliver safe water to your home or business each day. We make significant efforts to protect our water resources for both existing needs and future generations.

The following pages provide the drinking water analysis summary results of a continuous testing program. This analysis demonstrates the meeting or exceeding of the goals set by Federal and State agencies to protect public health. Important definitions are provided to help further clarify the information. For additional information contact the City of Milledgeville Water and Sewerage Office at (478) 414-4052.

The bottom line is we provide safe, quality drinking water to you 24 hours a day, 7 days a week, 365 days a year because we know that safe, good drinking water is vital to the health and well being of our community.

Who Provides My Water?

You are a customer of the City of Milledgeville Water System, an agency of the City of Milledgeville Government. We distribute treated water to you and treat wastewater in a manner safe to your families and the environment.

The Water System is a utility that provides treated drinking water on a customer and a wholesale basis to Baldwin County Water System. The City of Milledgeville Water System treats drinking water using state-of-the-art equipment and ensures water quality through continued monitoring and testing.

Where Does My Water Come From?

The City of Milledgeville, PWS ID #0090001, located in Milledgeville, GA, withdraws raw, surface water from intake sites on the Oconee River. Two treatment plants, the Lamar F. Ham Plant and the James E. Baugh Plant, perform the treatment of the raw water. The Lamar F. Ham Plant has a permitted treatment capacity of 8.64MGD and was constructed in 1953. The second plant, the James E. Baugh Plant, has a treatment capacity of 3.88MGD. It was purchased from the State in 1994. Raw water is pumped to the treatment plant where pretreatment chemicals are added to assist with the treatment process of coagulation/flocculation, sedimentation, and filtration. Additional chemicals are added as post treatment for corrosion control, pH, fluoridation, and chlorination. The water plant is staffed with certified operators and lab analysts. The laboratory is state approved. Regular checks are performed on the water being treated to ensure that the finished product meets all State and Federal regulations. After treatment at the plants, the finished water is fed to the distribution lines and finally to your home or business.

How Is My Water Treated?

The process begins by pumping untreated water from the river into sedimentation basins where large particles are removed and the water is disinfected. The water is directed to a process called flocculation which is a gentle mixing of the water with a coagulant. This allows particles, called “floc”, to form and settle, clarifying the water. Next the water is put through a filtration system where water flows through conventional filters trapping even smaller particles. After filtration, chemicals are added for final disinfection. Except for chlorine and fluoride, every chemical used in the treatment process is removed before the finished water is distributed to you.

Why Are There Contaminants?

The sources of drinking water (both tap 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 the following:

- *Microbial contaminants, such as viruses and bacteria that 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 storm 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 storm water runoff, and residential uses.*
- *Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.*

In order to ensure 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 must provide the same protection for public health.

When there are contaminants, the U.S. Environmental Protection Agency (EPA) and the Georgia Environmental Protection Division (EPD) have set treatment methods to reduce the contaminants to levels that protect human health. The City of Milledgeville’s water laboratory continuously monitors water quality to be sure it is properly treated to EPA and EPD standards. In addition, over 25 water samples throughout Milledgeville’s distribution system are taken randomly each month and tested.

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 (1-800-426-4791).

Notice To People With Health Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-comprised 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 are available from the Safe Drinking Water Hotline at (1-800-426-4791).

Source Water Assessment And Protection

The 1996 Amendments to the Federal Safe Drinking Water Act has brought about a new approach for ensuring clean and safe drinking water served by public water supplies in the United States. As a result of this amendment, the U.S. Environmental Protection Agency is now advocating prevention of contamination as an important tool in the protection of public water supplies. In order to implement prevention and protection strategies, an assessment of potential pollution sources upstream of a drinking water supply source must first be conducted. The U.S. EPA is requiring all states to develop and submit comprehensive source water assessment plans for all source water intakes.

A Water Supply Watershed-Based Source Water Assessment Plan (SWAP) has been prepared for both the Lamar F. Ham and James E. Baugh Intakes. Included in the SWAP was the identification of potential sources of contamination. The Georgia Department of Natural Resources-Environmental Protection Division's report Source Water Assessment and Protection Implementation Plan for Public Drinking Water Sources: March 2002 lists the types of potential pollution sources that must be inventoried and mapped and they include: dairy and beef cattle farm operations; swine feeding operations; major poultry growers; airports; fuel facilities and underground storage tanks; landfills; marinas; bulk chemical and petroleum storage facilities; hazardous waste facilities; oil and gas pipelines; power plants; railways, roads, and sewer lines adjacent to crossing over streams, wastewater treatment plants, etc.

In addition, the SWAP reports for these two intakes outline the overall susceptibility of the water source intake to these potential contaminant sources. Based on an analysis of various factors using the methodology described in the above Georgia DNR-EPD report, it was determined that the overall susceptibility for both Lamar F. Ham and James E. Baugh intakes was MEDIUM.

A copy of the entire report for both the Lamar F. Ham and James E. Baugh intakes can be obtained from the City of Milledgeville Water and Sewerage Department, or can be accessed via the following internet address: www.mgrdc.org/code/swap.html.

Water quality data for community water systems throughout the United States are available on the internet at www.waterdata.com.

The table shows the results of the City of Milledgeville's laboratory analysis of your water during the previous year. The data presented in this report are from the most recent testing done in accordance with regulations. The table lists the name of every regulated substance detected, the maximum level allowed in drinking water (MCL), the ideal goals for public health (MCLG), the amounts detected, and the range of levels detected. Also noted are the usual sources of such contamination and an explanation of our findings.

The Georgia Environmental Protection Division has determined that the concentration of certain water quality monitoring parameters does not change frequently within our system, therefore some of the data presented in this report are greater than one year old.

How To Read This Report

Definitions

Parts per million (ppm) or Milligrams per liter (mg/l) *– One part per million is equivalent to one minute in two years or one penny in $10,000.*

Parts per billion (ppb) or Micrograms per liter *– One part per billion is equivalent to one minute in 2,000 years or a one penny in $10,000,000.*

Regulatory 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 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. MCLs are set as close to the MCLGs 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. MCLGs allow for a margin of safety.*

Maximum Residual Disinfectant Level (MRDL) *– The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbiological contaminants.*

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

Turbidity *– Is a measure of the cloudiness of water. Turbidity is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.*

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.

Maximum Reporting Levels (MRL) – A number, if exceeded must be reported so EPA can get enough data to regulate a contaminate, if needed.

N/A – Not applicable.

Non-Detected (ND) – Not detectable at testing limit.

Range of Detection – The lowest to the highest level detected.

Maximum Contaminant Levels (MCL) are set at very stringent levels. In order to conceptualize 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.

The following table illustrates the results of our monitoring for certain parameters during the period of January 1 thru December 31, 2014, unless otherwise noted. This table includes a sampling of the testing performed. Many other tests are performed to evaluate the water quality. Test groups including volatile organics, synthetic organics, radioactive inorganics and microbiological tests are performed. Additionally, the City of Milledgeville monitors for unregulated contaminants.

Test Results

Contaminant	MCL	MCLG	City of Milledgeville Water System	Unit of Measurement	Range of Detection	Violation No/Yes	Sample Date	Likely Source of Contamination
Microbiological Contaminants								
Turbidity	TT=1 NTU TT=percentage of samples <0.3 NTU	N/A 0	0.19 100.00%	NTU %	0.01-0.19 100.00%	No No	2014 2014	Soil runoff
Total Organic Carbon	TT=35% Removal	N/A	46.54%	% Removal	34.80%-70.80%	No	2014	Naturally present in the environment
Inorganic Contaminants								
Lead	AL=15	0	90th Percentile = 0 **No samples were found to have lead levels in excess of the Action Level.**	PPB	ND-3.00	No	2012	Corrosion of household plumbing systems, erosion of natural deposits
Copper	AL=1300	1300	90th Percentile = 59.00 **No samples were found to have copper levels in excess of the Action Level.**	PPB	ND-170.0	No	2012	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Nitrate/Nitrite	10	10	0.36	PPM	0.35-0.36	No	2014	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride	4	4	1.04	PPM	0.91-1.20	No	2014	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Volatile Organic Contaminants								
Chlorine	MRDL = 4	MRDLG= 4	1.96	PPM	1.39-2.25	No	2014	Water additive used to control microbes
Chlorite	1	0.8	0.51	PPM	0.25-0.96	No	2014	By-product of drinking water chlorination
Chlorine Dioxide	MRDL = 800	MRDLG = 800	230.00	PPB	110.00-460.00	No	2014	Water additive used to control microbes
TTHM (Total Trihalomethanes)	80	N/A	61.05	PPB	17.40-80.50	No	2014	By-product of drinking water chlorination
HAA (Haloacetic Acids)	60	N/A	48.08	PPB	15.20-42.00	No	2014	By-product of drinking water disinfection

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 Milledgeville 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 www.epa.gov/safewater/lead.

As you can see our water system had no violations. We are proud that your drinking water meets or exceeds all State and Federal requirements.

EPA has determined that your water IS SAFE.

NOTE: The part of the enclosed text printed in italic was taken from the “Preparing Your Drinking Water Consumer Confidence Report” prepared by The United States Environmental Protection Agency, dated April 2010.

Cryptosporidium & Giardia Monitoring

Contaminant	City of Milledgeville Water System	Unit of Measurement	Range of Detection	Violation No/Yes	Sample Date	Testing Performed On
Cryptosporidium	8	ORG/L	ND-8	No	2014	Source Water
Giardia	1	ORG/L	ND-1	No	2014	Source 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% removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly 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.

2013 UCMR Monitoring

EPA mandated that large water systems begin their Unregulated Contaminant Monitoring Regulation or UCMR testing in February 2013. There is a vast range of contaminants that may be in water, but as of yet are not regulated by federal or state environmental agencies. Some contaminants were found in our water in the 2013 round of UCMR testing. These were found only at some sites and not every contaminate was found at all sites. The purpose of monitoring these contaminants is to help EPA decide whether some contaminants should have a limit.

Contaminant	Lowest	Highest	Average	Unit of Measurement	MRL	Violation No/Yes	Sample Date	Likely Source of Contamination
Strontium	40.00	60.00	47.88	PPB	0.30	No	2013	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions
Vanadium	ND	0.40	0.27	PPB	0.20	No	2013	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate & a catalyst
Chromium, Hexavalent	0.03	0.14	0.08	PPB	0.03	No	2013	Naturally-occurring element; used in making steel & other alloys; chromium-3 or -6 forms are used for chrome plating, dyes, & pigments, leather tanning, & wood preservation
Chlorate	88.00	870.00	399.25	PPB	20.00	No	2013	Agricultural defoliant or desiccant; disinfection byproduct; & used in production of chlorine dioxide
1,4 Dioxane	ND	0.13	0.02	PPB	0.07	No	2013	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture & processing of paper, cotton, textile products, automotive coolant, cosmetics, & shampoos

For More Information

The City of Milledgeville Water System works around the clock to provide quality water to every tap. We ask that all of our customers follow water restrictions and help us to protect our water sources, which are the heart of our community, our way of life, and our children's future. If you want to learn more, please attend any of our regularly scheduled meetings. Council meetings are held on the second and fourth Tuesday of each month at 7:30 p.m. in the City Council Chambers.

City council meetings are televised on the evening of the meeting beginning at 7:30 p.m. on the City of Milledgeville's Government/Educational Access Channel MBC TV4 through Charter Cable. The operations and maintenance of the City Cable Channel is through a special agreement with GC&SU's Media Production Resources. Reruns of the immediate past meeting are televised Monday through Friday at 7:30 p.m.

If you have any questions about this report or concerning your utility water, please contact the City of Milledgeville Water & Sewerage Office at (478) 414-4052. For after hours emergency contact, please call (478) 414-4000. Please send written correspondence to: City of Milledgeville, Attn: Barry Jarrett, City Manager/Water and Sewerage Director, P.O. Box 1900, Milledgeville, GA 31059.

Georgia Water Conservation Plan

In 2002, the Georgia Department of Natural Resources adopted a State Drought Management Plan that includes outdoor water use restrictions for drought and non-drought periods. The City of Milledgeville Water System does enforce this established permanent, year-round, statewide outdoor water use schedule.

- If your home street address ends in an even number (0, 2, 4, 6, 8), you are allowed to water outdoors on Monday, Wednesday and Saturday.
- If your home street address ends in an odd number (1,3,5,7,9), you are allowed to water outdoors on Tuesday, Thursday, and Sunday.
- No watering is allowed on Friday.
- Watering is permitted only during the hours of midnight to 10 AM.

The outdoor water use restrictions will become more limited as drought conditions might evolve.

We ask for your cooperation and support in protecting our water resources, and that you monitor the status of outdoor water use restrictions through the news media.

The official web site for information on the water usage restrictions and other affairs is http://www.milledgevillega.us/index.html.