# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016

***Presented By***

**City of LaGrange, Georgia**

LAGRANGE georgia

SMART MOVE℠

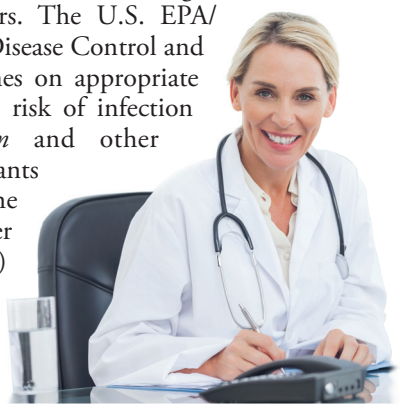
PWS ID#: 2850001

## Our Commitment to Clean Drinking Water

We are pleased to present this Annual Water Quality Report covering the period from January 1 to December 31, 2016. Our staff of certified operators works hard day and night throughout the year to ensure the delivery of safe and reliable drinking water. The City meets or exceeds all quality standards established by the U.S. Environmental Protection Agency (EPA) as required by the Federal Safe Drinking Water Act. During 2016, our staff continued efforts to rehabilitate water distribution infrastructure through projects to reduce the amount of water lost to leaks, address water pressure issues, and eliminate water discoloration in areas with older piping.

## Important Health Information for Immunocompromised Customers

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those 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 or http://water.epa.gov/drink/hotline.



## Questions?

**For more information about this report or if you have any questions about your drinking water, please contact Keith Hester, Water Division Superintendent, at (706) 883-2158. You may also email us at utilities@lagrange.net or visit our Web site at www.lagrange.net.**

## Community Participation

LaGrange City Council meetings are held on the 2nd and 4th Tuesday of each month at 5:30 p.m. in the Council Chambers located at 208 Ridley Avenue, LaGrange, Georgia.

## Substances Found in All Water Sources

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that 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 dissolves 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Water Main Flushing

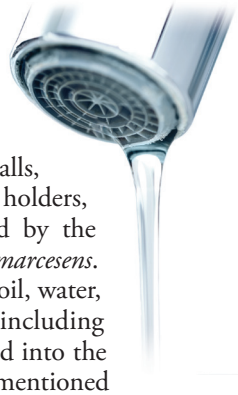
Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

## What Causes the Pink Stain on Bathroom Fixtures?



The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders, and on pets' water bowls is caused by the growth of the bacterium *Serratia marcesens*. Serratia is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above-mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

## Source Water Assessment

A source water assessment has been conducted on the City of LaGrange watershed as required by the Safe Drinking Water Act. The purpose of the assessment is to identify potential sources of contamination and the possible risk that is imposed on our water supply. Our overall susceptibility to source water contamination was determined through this analysis to be LOW. A copy of the report can be obtained from the City upon request.

## Information About 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. We are responsible for providing high-quality drinking water, but we 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/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. Furthermore, 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 from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at https://goo.gl/Jxb6xG.

## The Water Treatment Process

Creating clean drinking water consists of a series of precise steps overseen by certified water plant operators. First, source water is pumped from West Point Lake into a holding pond. Water then flows by gravity to a mixing basin where aluminum sulfate and complex polymers are added. These chemicals cause particles in the water to join together into larger particles, called floc, that settle to the bottom of large basins for later removal. Chlorine and chlorine dioxide are added for disinfection, metal removal, and taste and odor control. At this point, water is filtered through layers of fine coal and silicate sand to remove remaining particles. Turbidity and particle counts, measures of water clarity, are regularly monitored as water emerges from the filters. Chlorine is added a second time before the water is stored in underground holding tanks to allow time for further disinfection to occur. We carefully measure and limit the amount of chlorine used in order to prevent the formation of disinfection by-products. Before water leaves the plant, sodium hydroxide is added to control pH and alkalinity, fluoride is added as required by law to prevent tooth decay, and a corrosion inhibitor is added to coat and protect our piping. Finally, finished water is pumped into the distribution system for use by your home or business.

## Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

**How chlorination works:**

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

## The Source of Our Water Supply

The City of LaGrange withdraws water from the abundant resources of the Chattahoochee River and West Point Lake Reservoir. There are sufficient quantities of water in this basin to supply our community's needs well into the future. Our advanced treatment process ensures that source water is thoroughly disinfected, purified, and filtered prior to delivery to customers. However, we do experience occasional taste and odor problems during late summer and early fall, associated with algae growth in the lake. This is not an uncommon phenomenon for water systems supplied by lakes or rivers, and the problem usually disappears within a week or two.

## Test Results

Our drinking water is monitored for many different contaminants using a strict sampling schedule. The table below contains only those substances that were detected. The State recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information about this program.

### REGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | MCL [MRDL] | MCLG [MRDLG] | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Chlorine Dioxide** (ppb) | 2016 | [800] | [800] | 195 | 80–360 | No | Water additive used to control microbes |
| **Chlorine** (ppm) | 2016 | [4] | [4] | 1.36 | 1.13–1.75 | No | Water additive used to control microbes |
| **Chlorite** (ppm) | 2016 | 1 | 0.8 | 0.09 | 0.01–0.42 | No | By-product of drinking water disinfection |
| **Fluoride** (ppm) | 2016 | 4 | 4 | 0.70 | 0.45–1.03 | No | Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories |
| **Haloacetic Acids [HAAs]** (ppb) | 2016 | 60 | NA | 14.38 | 6.2–23.80 | No | By-product of drinking water disinfection |
| **Nitrate** (ppm) | 2016 | 10 | 10 | 1.79 | NA | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| **TTHMs [Total Trihalomethanes]** (ppb) | 2016 | 80 | NA | 35.17 | 16.2–60.32 | No | By-product of drinking water disinfection |
| **Total Organic Carbon** (ppm) | 2016 | TT | NA | 1.43 | 0.73–2.42 | No | Naturally present in the environment |
| **Turbidity**[1] (NTU) | 2016 | TT | NA | 0.11 | 0.03–0.11 | No | Soil runoff |
| **Turbidity** (Lowest monthly percent of samples meeting limit) | 2016 | TT = 95% of samples meet the limit | NA | 100 | NA | No | Soil runoff |
| **Uranium** (ppb) | 2016 | 30 | 0 | 0.193 | NA | No | Erosion of natural deposits |

**Tap water samples were collected for lead and copper analyses from sample sites throughout the community.**

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AL | MCLG | AMOUNT DETECTED (90TH%TILE) | SITES ABOVE AL/ TOTAL SITES | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Copper** (ppm) | 2015 | 1.3 | 1.3 | 0.18 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |
| **Lead** (ppb) | 2015 | 15 | 0 | 0 | 0/30 | No | Corrosion of household plumbing systems; Erosion of natural deposits |

### SECONDARY SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | SMCL | MCLG | AMOUNT DETECTED | RANGE LOW-HIGH | VIOLATION | TYPICAL SOURCE |
|---|---|---|---|---|---|---|---|
| **Iron** (ppb) | 2016 | 300 | NA | 10 | 10–20 | No | Leaching from natural deposits; Industrial wastes |
| **Manganese** (ppb) | 2016 | 50 | NA | 10 | 10–20 | No | Leaching from natural deposits |

### UNREGULATED SUBSTANCES

| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH | TYPICAL SOURCE |
|---|---|---|---|---|
| **Bromodichloromethane** (ppb) | 2016 | 5.5 | NA | By-product of drinking water disinfection |
| **Chlorodibromomethane** (ppb) | 2016 | 3.7 | NA | By-product of drinking water disinfection |
| **Chloroform** (ppb) | 2016 | 3.6 | NA | By-product of drinking water disinfection |
| **Sodium** (ppm) | 2016 | 9.5 | NA | Naturally occurring |

| UNREGULATED CONTAMINANT MONITORING RULE – PART 3 (UCMR3) | | | |
|---|---|---|---|
| SUBSTANCE (UNIT OF MEASURE) | YEAR SAMPLED | AMOUNT DETECTED | RANGE LOW-HIGH |
| **1,4-dioxane** (ppb) | 2014 | 0.12 | NA |
| **Chlorate** (ppb) | 2014 | 114 | NA |
| **Chromium** (ppb) | 2014 | 0.095 | NA |
| **Hexavalent Chromium** (ppm) | 2014 | 0.06 | NA |
| **Molybdenum** (ppb) | 2014 | 1.2 | NA |
| **Strontium** (ppb) | 2014 | 36.75 | NA |
| **Vanadium** (ppb) | 2014 | 0.17 | NA |

[1] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

## Definitions

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

**LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.

**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

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**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).

**SMCL (Secondary Maximum Contaminant Level):** SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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