



2016 Water Quality Report

Water System ID No. 1850002

Providing Safe Water

During 2016, the City of Valdosta Utilities Department treated 3.9 billion gallons of water and provided safe, clean, high-quality water for all our customers. The purpose of this Water Quality Report is to inform our customers about where their water is obtained, how it is treated and how it compares to the standards set by regulatory agencies.

Test results for water samples collected and analyzed are provided in the Water Quality Data Table, located on page 3. The Data Table provides information only for those items that are regulated by the Environmental Protection Agency (EPA) and whose presence was detected in representative system samples. For example, the dental profession recommends that fluoride levels of about 1.00 ppm (mg/l) are good for dental health, and the Valdosta Water Treatment Plant adds fluoride to achieve the recommended level as shown in the table. However, EPA regulates fluoride and requires that the concentration of fluoride in drinking water not exceed 4.0 ppm. The list of parameters and their concentration level in the table is not an indication of a problem unless a violation is noted. The city analyzes hundreds of samples for many parameters—some hourly, some daily, and others on a quarterly basis. These samples are collected throughout the system as part of quality control of the treatment process. Ground water will always contain trace amounts of dissolved limestone or calcium, as well as iron and other elements. The city's finished water contains some sodium, phosphates, fluoride and chlorine that have been added to improve the water quality. The report also includes required health effects information regarding the use of water.

The city's Water Treatment Plant continues to receive recognition each year for its efforts to provide safe water to its customers and has received numerous Excellence of Operations Awards from the US EPA, the Georgia Environmental Protection Department and the Georgia Association of Water Professionals (GAWP). In 2013, it received the Water Treatment Plant of the Year Award by the GAWP, recognizing this facility as the best in its category. Furthermore, the city's water and sewer rates remain lower than more than 100 other systems of all sizes in Georgia, despite the cost of the state-of-the-art treatment facility.

In 2016, the department continued to upgrade and improve its critical water facilities and infrastructure by implementing specific strategies to expand its wellfield system and improve its treatment and distribution systems. Construction was completed to connect two additional raw water wells to the existing wellfield. These two new production wells have increased available capacity for the next several years. Likewise, further redundancy was added to the disinfection process with the installation of a new backup hypochlorite feed system.

In addition to plant tours, city staff often provides speakers and public education programs to the community concerning water and other environmental subjects. For more information concerning your water supply or this report, call 229-259-3592.



Valdosta's Water Source

The City of Valdosta obtains its water supply from wells that are drilled into an underground layer of porous, water bearing limestone known as the Upper Floridan Aquifer. This limestone layer lies under most of South Georgia and all of Florida. Generally, the aquifer can provide a prolific supply of good, clean water. In Valdosta, the top of the aquifer lies approximately 200 feet below ground surface, and the city's wells are drilled an additional 200 feet into the limestone.

The Upper Floridan Aquifer below Valdosta and Lowndes County is known as a karst aquifer. This is an aquifer that has cracks, underground solution channels and caverns. These cracks can provide a route to allow contaminants to enter the aquifer, move about in the aquifer and alter the water supply, which can cause special challenges for the city's water system. Just north of Valdosta, one of these cracks is located beneath the Withlacoochee River. The underground crack has formed a sinkhole in the streambed of the flowing river. The river loses about 20 cubic feet per second (cfs) during the wet season and two cfs during the dry season to the aquifer below the sinkhole. The surface water contains tannic acids and organics from vegetation growing along the river. This mixture of water and organics causes a unique situation for all Upper Floridan Aquifer users in this area.

The Valdosta Water Treatment Plant—comprised of nine well fields—is located a few miles northeast of the city and several miles away from the sinkholes that open into the aquifer. The water in the aquifer moves very slowly through the limestone, and measurements have shown the travel time from the sinkhole to the well field to be as much as 75 years. However, the water from the



Prepared for Emergencies

The Valdosta Water Plant is equipped with not one, but two diesel generators for backup power in the event of an emergency. Loss of electricity quickly becomes a major challenge during natural disasters and could raise public health concerns. Without backup power for an extended period, many water services cannot be provided. The size of one of these generators (in photo above) is the size used in a locomotive train, and both generators provide the city with enough power for a week.

wells does contain some of the organic material, as well as naturally occurring sulfides, iron and manganese from deposits scattered throughout the aquifer.

The City of Valdosta Ground Water Withdrawal Permit, which allows the city to take water from the aquifer and distribute it to its customers, was renewed in December 2012. This permit from the Environmental Protection Division of the Department of Natural Resources allows the withdrawal of an annual average daily flow (AADF) of 11.4 million gallons per day (MGD) and a maximum month average daily flow (MMADF) of 15.3 MGD. Currently, the city's AADF is 8.739 MGD, and the MMADF is 10.913 MGD.



Educating the Valdosta Public About Its Drinking Water

Water Treatment Plant Superintendent Jason Barnes (left center) received a proclamation from Mayor John Gayle in May during National Drinking Water Week, an observance the City of Valdosta participates in annually with tours and workshops that provide citizens with information about their drinking water. For additional information about this valuable resource, visit www.valdostacity.com/water-treatment-plant.

Where Does the Water Go?

For the most part, water is used to flush toilets, bathe and to wash dishes, clothes and cars. In general, most people take our water supplies for granted, yet they are limited. Americans use much more water each day than those in both developed and undeveloped countries. The average American uses about 90 gallons of water each day in the home, with 50-70 percent of that being used to water lawns and gardens. In contrast, the average European uses 53 gallons and the average Sub-Saharan citizen, 3-5 gallons each day. Water efficiency plays a key role in protecting our water sources. By using water wisely, citizens can save money, help the environment and ensure sustainable water supplies for future generations.

WATER QUALITY DATA TABLE 2016

City of Valdosta Water System ID No. 1850002. The table below lists all the drinking water contaminants that were detected during the 2016 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing completed from January 1 - December 31, 2016. * EPD requires the city to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old. Samples were tested for many other contaminants that were not found in the water and, therefore, are not listed.

INORGANIC CONTAMINANTS

CONTAMINANT (units)	MCL	MCLG	Result [Range]	Violation?	Sample Date	Major Source
Fluoride (ppm)	4.0	4.0	[.44-1.12]	No	2016	Water additive that promotes strong teeth

LEAD AND COPPER MONITORING

CONTAMINANT (units)	MCL (AL) *	MCLG	90th Percentile Value (Samples exceeding AL)	Violation?	Sample Date	Major Source
Copper (ppb)	1300	0	320/ [zero]	No	2014	Corrosion of household plumbing systems
Lead (ppb)	15	0	0 / [zero]	No	2014	

VOLATILE ORGANIC CONTAMINANTS (Regulated)

CONTAMINANT (units)	MCL	MCLG	Result [Range]	Violation?	Sample Date	Major Source
Total Trihalomethanes (ppb)	80	0	[44-68]	No	2016	Byproduct of drinking water chlorination
Haloacetic Acids (ppb)	60	0	[4-50]	No	2016	

MICROBIOLOGICAL CONTAMINANTS

CONTAMINANT (units)	MCL	MCLG	Highest Monthly % of Positive Samples [Range]	Violation?	Sample Date	Major Source
Total Coliform Bacteria (TC)	<5% positive samples during a monthly testing period	Zero positive samples during monthly testing period	0% [0-0%]	No	2016	Coliform bacteria are naturally present in the environment

FREE CHLORINE RESIDUAL

CONTAMINANT (units)	MCL (MRDL)	NCLG (MRDLG)	Result [Range]	Violation?	Sample Date	Major Source
Free Chlorine (ppm)	4.0	4.0	[1.13-2.38]	No	2016	Chemical added for disinfection

OTHER CONTAMINANTS: Radionuclides

CONTAMINANT (units)	MCL	MCLG	Result	Violation	Sample Date	Major Source
* Alpha Emitters (pCi/L)	15	15	4+/-1	No	2016	Erosion of natural deposits

TERMS AND DEFINITIONS OF ABBREVIATIONS

Contaminant: Any natural or man-made physical, chemical, biological, or radiological substance or matter in water, which is at a level that may have an adverse effect on public health, and which is known or anticipated to occur in public water systems. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Valdosta Water System 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.

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 the addition of a disinfectant is necessary for control of microbial 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.

Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements.

Total Trihalomethanes (TTHM): Four compounds (chloroform, dichlorobromomethane, dibromochloromethane & bromoform) that form as a result of disinfection.

Haloacetic Acids (HAA): Five separate compounds (monochloroacetic acid, monobromoacetic acid, dichloroacetic acid trichloroacetic acid, dibromoacetic acid) that form as a result of disinfection. Some people who drink water containing HAAs in excess of the MCL over many years may experience problems with their livers, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Total Coliform Bacteria (TC): A group of bacteria commonly found in the environment. They are an indicator of potential contamination of water. Adequate and appropriate disinfection effectively destroys coliform bacteria.

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

Range: The lowest and highest results recorded for the year.

ppm: Parts per million or milligrams per liter.

pCi/L: Picocuries per liter (a measure of radiation).

Disinfection: A process that effectively destroys coliform bacteria.

N/D: Not detectable at testing limit.

ppb: Parts per billion.

n/a: Not applicable.

Determining the Health Effects of WATER

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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy for cancer, who have undergone organ transplants, who have HIV/AIDS or other immune system disorders, as well as the elderly and infants, can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers.

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 Valdosta is responsible for providing high-quality drinking water, but it 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may seek to have your water tested.

The sources of drinking water (both bottled water and tap water) include aquifers, 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 before the city treats it include the following:

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.

Pesticide 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 byproducts 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.

To ensure that 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.

Citizens may receive more information about contaminants and potential health effects by calling the EPA Safe Drinking Water Hotline at 800-426-4791 or visiting www.epa.gov/safewater.

2016 Water Quality Report

The City of Valdosta is committed to providing its citizens with safe, dependable tap water on a year-round basis and is proud to provide this water quality report to our customers.

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