



2016 ANNUAL DRINKING WATER QUALITY REPORT

THE QUALITY OF DRINKING WATER TO OUR CUSTOMERS

The City of Lakeland, Department of Water Utilities serves 56,301 metered accounts with a population of 173,842 people. In 2016, we distributed over 7.9 billion gallons of water to our customers.

WATER SOURCE

Nineteen wells (13 wells at the T.B. Williams WTP and 6 wells at the C.W. Combee WTP) drilled 750 feet into the Floridan aquifer, cased and grouted 200 feet below the surface provide raw water to the City's two lime softening plants. Utilizing a variety of treatment processes the operators control the blending of raw water with softened water to produce water with stability slightly on the scale forming side (utilizing Langlier's Saturation Index as the primary parameter). After blending the water, it is then filtered utilizing dual media filters consisting of anthracite and sand. The finished water is then delivered to the transmission/distribution system using high service pumps to maintain system pressure. Chemical addition includes calcium hydroxide (lime) and polymer in the lime softening process, starch for sludge conditioning, fluoride for dental health, phosphate for calcium sequestration prior to filtration and chlorination to 2.8 ppm free chlorine residual for disinfection.

SOURCE WATER ASSESSMENT AND PROTECTION PROGRAM*

Size of Assessment Area: For this community system, a 5-year ground water travel time around each well was used to define the assessment area. The 5-year ground water travel time is defined by the area from which water will drain to a well pumping at the average daily permitted rate for a five-year period of time.

DEAR CITY OF LAKELAND CUSTOMER:

The Safe Drinking Water Act (SDWA) requires that utilities issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks our water testing and treatment are designed to prevent. The City of Lakeland is committed to providing you with the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water. We are proud to report that the water provided by The City of Lakeland meets or exceeds established water-quality standards.

NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

For more information, or to request a copy of this report, call the City of Lakeland at (863) 834-6802. The water plant operator on duty will be glad to answer any questions. Water Quality Data for your community water system is available at <http://www.lakelandgov.net/water/water/water-quality>

Number of Wells: 19

The Department of Environmental Protection has performed a Source Water Assessment on the T.B. Williams and C.W. Combee Treatment Plants in 2015. The assessments were conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are 3 Unique Potential Contaminant Sources identified for this system. 13 Wells have been identified with a "moderate" concern level. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

AN EXPLANATION OF THE WATER QUALITY DATA TABLE

The table shows the results of our monitoring for the period of January 1 to December 31, 2016 and includes test results in earlier years for contaminants sampled less than once a year. For contaminants not required to be tested in 2016, test results are for the most recent testing done in accordance with the regulations. The table on the right contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key, referencing units of measurement. Definitions of MCL, MCLG, MRDL and MRDLG are important.

MAXIMUM CONTAMINANT LEVEL OR 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 OR 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 or MRDL:

The highest level of a disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health.

REQUIRED HEALTH INFORMATION

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 Lakeland 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 <http://www.epa.gov/safewater/lead>

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:
(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) 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.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) 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.

(E) 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 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 1-800-426-4791. Some people may be more vulnerable to contaminants in drinking water than the rest of the general population. Immuno-compromised 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 (800-426-4791).



REQUIRED MONITORING TEST RESULTS TABLE

Key to Table: **AL**= Action Level **MCL**= Maximum Contaminant Level **MCLG**= Maximum Contaminant Level Goal **pCi/L** = Pico curies per liter (a measure of radioactivity in water) **ppm**= parts per million or milligrams per liter (mg/l) (One part by weight of analyte to 1 million parts by weight of the water sample)., **ppb** = parts per billion (One part by weight of analyte to 1 billion parts by weight of the water sample), or micrograms per liter (µg/L) **n/a**= Does Not Apply **ND**= indicates that the substance was not detected by laboratory analysis

NON-SECONDARY CONTAMINANT TABLE							
Contaminant and Unit of Measurement	Monitoring Period Month/Year	MCL Violation Yes/No	Highest Monthly Percentage	MCLG	MCL	Likely Source of Contamination	
Microbiological Contaminants							
Total coliform bacteria: Highest Monthly Percentage is the highest monthly percentage of positive total coliform bacteria in one month.							
Total Coliform Bacteria	08/2016	No	1.45 %	0%	5%	Naturally present in the environment.	
** Results in the Level Detected column for radiological contaminants and inorganic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Monitoring Period Month/Year	MCL Violation Yes/No	Level Detected **	Range of Results	MCLG	MCL	Likely Source of Contamination
Radiological Contaminants							
Alpha Emitters (pCi/L)	1/1/2011-12/31/2011	No	1.7	ND - 1.7	0	15	Erosion of natural deposits
Radium 226 + 228 or combined Radium (pCi/L)	1/1/2011-12/31/2011	No	3.2	1.3 - 3.2	0	5	Erosion of natural deposits

Inorganic Contaminants							
Contaminant and Unit of Measurement	Monitoring Period Month/Year	MCL Violation Yes/No	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	1/1/2014-12/31/2014	No	0.007	0.003-0.007	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	1/1/2014-12/31/2014	No	1	ND - 1	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm)	1/1/2016-12/31/2016	No	0.76	0.59-0.76	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm
Lead (point of entry) (ppb)	1/1/2014-12/31/2014	No	0.13	0.087-0.13	0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Sodium (ppm)	1/1/2014-12/31/2014	No	7.8	5.6-7.8	n/a	160	Salt water intrusion; leaching from soil

Stage2 Disinfectant / Disinfectant By-Products Rule

Chlorine: Level Detected is the 2016 monthly average for residual Chlorine; Range of Results is the range of 2016 average monthly Chlorine residual level results (lowest to highest) at the individual sampling sites. TTHMs and HAA5s: Level detected is the highest LRAA detected in 2016 and the Range of Results is the 2016 results (lowest to highest) at the individual sampling sites.

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation (Y/N)	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Chlorine	1/01/2016-12/31/2016	No	1.62	1.30 – 1.87	MRDLG= 4	MRDL = 4	Water additive to control microbes
Haloacetic Acids (HAA5)(ppb)	01/01/2016-12/31/2016	No	33.95	8.00 -28.20	N/A	60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/01/2016-12/31/2016	No	55.30	20.20-50.30	N/A	80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90 th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Lead (tap water) (ppb)	1/2014 - 12/2014	No	1.5	0	0	15	Corrosion of household plumbing; erosion of natural deposits;
Copper (tap water) (ppm)	1/2014 - 12/2014	No	0.34	0	1.3	1.3	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives

Water-Quality Table Footnotes: Although we ran many tests, only the listed substances were found. They are all below the MCL required.