

Treated Water Quality Terms To Know

In the water quality data table you will find many terms and abbreviation with which you might not be familiar. To help you better understand these terms, please refer to the following definitions:

Non Detects (ND): Not detected and indicates that the substance was not found by laboratory analysis.

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.

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

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

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 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.

Parts per Billion (ppb) or Micrograms per Liter ($\mu\text{g}/\text{l}$): One part by weight of analyte to 1 billion parts by weight of the sample.

Parts per Million (ppm) or Milligrams per Liter (mg/l): One part by weight of analyte to 1 million parts by weight of the water sample.

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

N/A: Not applicable

For More Information

Melbourne Public Works & Utilities Department
(321) 608-5000

U.S. EPA Safe Drinking Water Hotline (800) 426-4791

You can also visit the EPA's drinking water web page at: www.water.epa.gov/
In the searchbar, type in Safe Drinking Water Hotline or visit Melbourne's web site at:
www.melbourneflorida.org

Other Customer Service Phone Numbers

City Hall Switchboard (321) 608-7000

Water Production Laboratory (321) 255-4622

Utility Billing (321) 608-7100


Water & Wastewater Operations
(321) 608-5100


After-Hours Water or
Wastewater Emergencies
(321) 255-4622

2017
City of Melbourne

Annual Drinking Water Quality Report



City of
Melbourne
The Harbor City 

City of
Melbourne
The Harbor City 



We are pleased to provide you with this year's Annual Drinking Water Quality Report.

We want to keep you informed about the excellent water and services we have delivered to you over the past year that meet all Federal and State requirements. Our constant goal is to provide you with a safe and dependable supply of drinking water.

The City of Melbourne routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2016. Data obtained before January 1, 2016 and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.



Melbourne's Drinking Water Sources

Source water includes Lake Washington and the Floridan Aquifer. Lake Washington is part of the St. John's River, the largest river in Florida. The water from the lake, also known as surface water, is treated using the Actiflo process at the John A. Buckley Surface Water Treatment Plant. Chloramines are used as a disinfectant and are formed when ammonia is added to chlorine to treat drinking water. Chloramine provides long-lasting disinfection as the water moves through pipes to consumers. Ozone is used to reduce the potential for disinfection byproducts.

The Floridan Aquifer is an extensive underground water source that covers 100,000 square miles in all of Florida and parts of Alabama, Georgia and South Carolina. Melbourne's Joe Mullins Reverse Osmosis Water Treatment Plant is supplied by four Floridan Aquifer system wells.

The brackish water from the wells is treated with a reverse osmosis filtering process to remove salts and impurities.

The treated groundwater is blended with the treated surface water. This blended water is then distributed to our consumers. Chloramine booster stations in the water distribution system ensure that adequate levels of disinfection are maintained throughout the system. Melbourne has a permitted water production capacity of 25 million gallons per day; however, on a typical day, demand for water is about 16 million gallons per day.

The Source Water Assessment Program

In 2004, the Department of Environmental Protection performed a Source Water Assessment (SWA) on our system. This assessment was conducted to provide

information about any potential sources of contamination in the vicinity of our groundwater wells and surface water intakes. There are three potential sources of contamination identified for the groundwater system with moderate susceptibility levels.



The surface water system susceptibility level is considered to be high risk due to the many potential sources of contamination identified. The assessment results are available on the FDEP Source Water Assessment and Protection Program web site at: www.dep.state.fl.us/swapp.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Bimonthly sampling of our source water in 2016 did not indicate the presence of these organisms.

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. High turbidity can hinder the effectiveness of disinfectants.



Substances That Might Be In Drinking Water

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 Melbourne Public Works & Utilities Department 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:

- 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.
- 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 stormwater runoff, and septic systems.
- 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.

2016 WATER QUALITY DATA

The results presented on the tables that follow are for the monitoring period of January 1 to December 31, 2016, unless otherwise noted.

Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage/No.	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	1/16	N	0.8% 1 out of 130 samples tested positive	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in >5% of monthly samples	Naturally present in the environment

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly % of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	1/16 - 12/16	N	0.25	100.0%	N/A	TT	Soil runoff

Inorganic Contaminants

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
Barium (ppm)	5/16	N	0.011	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	5/16	N	0.094	N/A	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Nickel (ppb)	5/16	N	3.4	N/A	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm)	5/16	N	0.15	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	5/16	N	67.1	N/A	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants and Disinfection By-Products

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Bromate (ppb)	1/16 - 12/16	N	2.7	ND - 11.5	MCLG = 0	MCL=10	Byproduct of drinking water disinfection
Chloramines (ppm)	1/16 - 12/16	N	3.6	0.1 - 7.4	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	TT Violation Y/N	Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon	1/16 - 12/16	N	2.0	1.7 - 2.4	N/A	TT	Naturally present in the environment

Stage 2 Disinfectants and Disinfection By-Products

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
Haloacetic Acids (HAA5) (ppb)	1/16 - 12/16	N	18.2	ND - 34.1	N/A	60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	1/16 - 12/16	N	40.1	9.4 - 39.3	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 Exceeded Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	6/16 9/16	N	0.17 0.16	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6/16 9/16	N	3.4 2.5	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

*Level detected value is for an individual site, while range of results value is for a rolling annual average (RAA) for multiple sites.

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 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 and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Community Education and Outreach

Education and outreach activities are an important part of our mission. We realize the importance of communicating with the public about our water quality, conservation and on-going improvement projects. We reach thousands of students each year about the importance of water conservation and how they can personally take steps to reduce wasting water. We have rebate programs in place to financially assist our customers with water-saving measures in their homes. New customer kits include water conservation brochures, and many other activities are conducted throughout the year to advance this cause. If you are interested in having someone speak to your class, civic group, community organization or homeowners' association about our water quality, treatment processes, conservation or other topics, please contact the Environmental Community Outreach (ECO) Division at (321) 608-5080.