

The City of West Melbourne



2020 Annual Drinking Water Quality Report

We are pleased to provide you with this year's Annual Drinking Water Quality Report. We want to keep you informed about the water and services we have delivered to you over the past year as we strive to meet all Federal and State requirements. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. We purchase our water from the City of Melbourne, which is derived from sources that include Lake Washington and the Floridan Aquifer. The City of Melbourne has a diversified water-supply approach, using both surface water and groundwater to make sure high-quality water is always available when needed. Lake Washington is part of the St. Johns River, the largest river in Florida. The water from the lake, also known as surface water, is treated using the Actiflo process at the Melbourne John A. Buckley Surface Water Treatment Plant.

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 City of Melbourne routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. The City of West Melbourne monitors bacteriologicals, asbestos and lead and copper tap samplings. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2020. Data obtained before January 1, 2019, and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.

If you have any questions about this report or concerning your water utility, please contact the Public Works Department at (321) 727-3710. We encourage our valued customers to be informed about their water utility.

In 2020, the Florida Department of Environmental Protection (FDEP) performed a Source Water Assessment (SWA) on the City of Melbourne's system. This assessment was conducted to provide information about any potential sources of contamination in the vicinity of Melbourne's groundwater wells and surface water intakes. There are four potential sources of contamination identified for the groundwater system with low 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.

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 storm water 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 storm water 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 storm water 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 the Water Quality Table you will find many terms and abbreviations with which you might not be familiar. To help you better understand these terms, please refer to the following definitions:

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.

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

Parts per billion (ppb) or Micrograms per liter (µg/l): One part by weight of analyte to 1 billion parts by weight of the water sample.

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

Not Detected (ND): Indicates that the substance was not found by laboratory analysis.

N/A: Not applicable

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 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 **(1-800-426-4791)**.

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 West Melbourne 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>.



2020 MELBOURNE WATER QUALITY TEST RESULTS TABLE



(unless noted as *West Melbourne*)

NON-SECONDARY CONTAMINANTS TABLE

Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	1/20 – 12/20	N	0.30	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)	5/20	N	0.0201	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	5/20	N	0.587	N/A	4	4.0	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
Nickel (ppb)	5/20	N	1.70	N/A	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Sodium (ppm)	5/20	N	86.2	N/A	N/A	160	Salt water intrusion, leaching from soil

STAGE 1 DISINFECTANTS & 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
Chloramines (ppm)	1/20 – 12/20	N	3.5	ND – 7.8	MRDLG = 4	MRDL = 4	Water additive used to control microbes

For chloramines, the level detected is the highest running annual (RAAL) computed quarterly of monthly averages of all samples collected. The range of results is the range of results of all the individual samples collected during the past year.

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	TT Violation Y/N	Lowest Running Annual Average of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon	1/20 – 12/20	N	2.10	1.77 – 2.50	N/A	TT	Naturally present in the environment

STAGE 2 DISINFECTANTS & DISINFECTION BY-PRODUCTS – *West Melbourne*

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 (five) (HAA5) (ppb)	1/20 – 12/20	N	39.3250	ND – 90.00	N/A	60	By-product of drinking water disinfection
TTHMs (Total trihalomethanes) (ppb)	1/20 – 12/20	N	19.0300	7.26 – 19.50	N/A	80	By-product of drinking water disinfection

** Level detected value is the highest Locational Running Annual Average (LRAA) value reported for a single site during the year, and the range of results includes the lowest and highest values for multiple sites.

The City of West Melbourne samples for disinfection by-products quarterly during a designated week and month. During August 2020, our sample collecting contractor took these samples four days late for the monitoring of disinfection by-products, and therefore could not be sure of the quality of our drinking water during that time. Once the error was discovered, our contractor took the samples and delivered to the laboratory and corrective actions were completed.

Lead and Copper (Tap Water) – West Melbourne

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	09/20	N	0.193	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	09/20	N	1.8	2	0	15	Corrosion of household plumbing systems, erosion of natural deposits

In 2020, the City of Melbourne has been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. Environmental Protection Agency (EPA) determine the occurrence in drinking water of UCs and whether or not these contaminants need to be regulated. At present, no health standards (for example, maximum contaminant levels) have been established for UCs. However, we are required to publish the analytical results of UC monitoring in our annual drinking water quality report. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791. To learn more or for the complete report contact the City of Melbourne's Water Production Department at (321) 608-5700.

UNREGULATED CONTAMINANTS

Contaminant and Unit of Measurement	Dates of Sampling (mo./yr.)	Level Detected (average)	Range	Likely Source of Contamination
Magnesium (ppb)	1/20	1.72	1.72	Unknown
Haloacetic Acids (HAA5) (ppb)	1/20	8.79	6.08 – 10.58	By-product of drinking water disinfection
Haloacetic Acids (HAA6Br) (ppb)	1/20	14.08	8.26 – 34.87	By-product of drinking water disinfection
Haloacetic Acids (HAA9) (ppb)	1/20	17.91	9.66 – 37.88	By-product of drinking water disinfection
Bromide (ppm)	1/20	0.226	0.226	Naturally present in the environmental

EPA Information

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

Haloacetic acids (five) (HAA5): One sample during 2020 had a Total Haloacetic Acids (HAA5) result of 90.0 ppb which exceeds the MCL of 60 ppb; however, the system did not incur an MCL violation because the annual average results at all sites were at or below the MCL. Some people who drink water containing haloacetic acids in excess of the maximum contaminant level (MCL) over many years may have an increased risk of getting cancer.

During the month of April 2020 monitoring period, our water system was in violation for insufficient number of distribution samples collected since eight out of twenty of them were analyzed past the 30-hour holding time at the laboratory while being processed for the analysis set-up. No make-up sampling was required because we already collected monthly samples for our consecutive system and all bacteriological sampling analyzed after April have shown coliform absent on the laboratory reports and corrective actions were completed.

Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present.

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.

We at the City of West Melbourne work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. If you have any questions or concerns about the information provided, please feel free to call any of the numbers listed.