

The City of West Melbourne



2019 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, 2019. 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 2019, 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>.

2019 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) | 1/19 – 12/19 | Y | 0.69 | 99.5% | 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) | 1/19 – 12/19 | N | 0.0222 | N/A | 2 | 2 | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Cyanide (ppb) | 1/19 – 12/19 | N | 51.53 | ND – 51.53 | 200 | 200 | Discharge from steel/metal factories; discharge from plastic and fertilizer factories |
| Fluoride (ppm) | 1/19 – 12/19 | N | 0.596 | 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) | 1/19 – 12/19 | N | 2.70 | N/A | N/A | 100 | Pollution from mining and refining operations. Natural occurrence in soil |
| Nitrate (as Nitrogen) (ppm) | 1/19 – 12/19 | N | 0.0962 | N/A | 10 | 10 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Sodium (ppm) | 1/19 – 12/19 | N | 93.1 | 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 |
|---|-----------------------------|---------------------------|----------------|------------------|---------------|-------------|---|
| Bromate (ppb) | 1/19 – 12/19 | N | 1.0 | ND – 12.3 | MCLG=0 | MCL=10 | By-product of drinking water disinfection |
| Chloramines (ppm) | 1/19 – 12/19 | N | 3.6 | 0.1 – 8.1 | MRDLG = 4 | MRDL = 4 | Water additive used to control microbes |

For bromate and 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 | 1/19 – 12/19 | N | 2.1 | 1.95 – 2.12 | 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) | 1/19 – 12/19 | N | 37.1425 | 3.81 – 87.90 | N/A | 60 | By-product of drinking water disinfection |
| TTHMs (Total trihalomethanes) (ppb) | 1/19 – 12/19 | N | 24.45 | 12.9 – 31.3 | 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.

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) | 10/17 | N | 0.0832 | 0 | 1.3 | 1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead (tap water) (ppb) | 10/17 | N | 1.0 | 0 | 0 | 15 | Corrosion of household plumbing systems, erosion of natural deposits |

Acrylamide

| Contaminant | TT Violation Y/N | Level Detected | Range | MCLG | MCL | Likely Source of Contamination |
|--|------------------|----------------|-------|------|-----|---|
| Acrylamide <i>The Acrylamide calculation is based on dosage</i> | Y | N/A | N/A | 0 | TT | Added to water during sewage/wastewater treatment |

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 2019 had a Total Haloacetic Acids (HAA5) result of 66.2 ppb and one sample had a Total Haloacetic Acids (HAA5) result of 87.9 ppb which exceeds the MCL of 60.49 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.

Acrylamide was added to the 2019 reporting table. Acrylamide is found in the polymer used as a coagulant to aid in the process to remove total dissolved solids from raw lake water. Increased use of polymer in July 2019 by the City of Melbourne due to the algal bloom in Lake Washington met the threshold to report based on the standard calculation of the dose used to treat surface water. Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

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.