2019 Water Quality Report

The City of Palm Bay's Utilities Department is proud to present the 2019 Annual Water Quality Report to our valued customers.

This report is designed to inform you about the service Palm Bay Utilities Department provides to the community. Our mission as a utility is to provide superior drinking water and advanced treatment and disposal of wastewater through an effective utilities system ensuring satisfaction of state and federal requirements, reflecting responsible environmental stewardship and striving for 100% customer satisfaction.

We take our job very seriously and are committed to ensuring the quality of the City of Palm Bay's drinking water and utilities services. Every day we strive to continually improve our organization with one goal in mind: providing you with safe, clean and reliable drinking water.

Palm Bay's Water

The City of Palm Bay's water source is groundwater that is obtained from 41 wells located throughout the City. These raw water wells provide water to Palm Bay Utilities Department's two water treatment facilities. The water collected by our wells is drawn from the Floridan Aquifer at a depth of 850 feet and surficial aquifers at a depth ranging from 80 to 150 feet.

Palm Bay Utilities Department treats the raw water from its wells using processes known as lime-softening and reverse osmosis. Once treated, the water is chlorinated for disinfection purposes and then fluoridated for dental health before entering our distribution system and pumped out across the City to reach our customers.

If you would like more information about our water treatment plants and processes, please visit our website at www.pbud.org and be on the lookout for our community outreach events and facility tours held throughout the year.

Source Water Assessment

To ensure that public drinking water is compliant with national standards set by the Environmental Protection Agency (EPA), the Florida Department of Environmental Protection (FDEP) initiated a program called SWAPP — Source Water Assessment and Protection Program. This program is intended to ensure that drinking water is not only safe at the tap, but also at the source.

In 2018, the FDEP performed a Source Water Assessment on Palm Bay Utilities Department's water treatment system. The assessment was conducted to provide information about any *potential* sources of contamination in the vicinity of our groundwater wells. The assessment shows there are 16 unique *potential* sources of contamination identified for this system with low to moderate susceptibility levels.

The expanded results of the City of Palm Bay's Source Water Assessment are available for viewing at the FDEP Source Water Assessment and Protection Program.

Drinking Water Contaminants

The sources of drinking water (including bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels on the surface of the land or through the ground it dissolves naturally occurring minerals and radioactive materials (in some cases), and can pick up substances resulting from the presence of humans and animals. 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.

(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 Environmental Protection Agency (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 commercially bottled water, may reasonably be expected to contain small amounts of some contaminants. The presence of contaminants is normal and does not necessarily indicate that the water poses a health risk to consumers.

More information about contaminants and potential health effects found in water can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1 (800)426-4791.

Testing Information

The City of Palm Bay routinely monitors for contaminants in your drinking water according to Federal and State laws, rules, and regulations. Except where indicted otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2018. Data obtained before January 1, 2018 and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.

Key Terms To Know

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

Non-Detects (ND): Indicates that the substance was not found by laboratory analysis.

Locational Running Annual Average (LRAA): The average of sample analytical results for samples taken at a particular monitoring location during the previous four quarters.

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 MRLDG: The level of a drinking water disinfectant below which there is no known or expected risk to health.

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.

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.

Picocurie per Liter (pCi/L): Measure of the radioactivity in water.

Running Annual Average (RAA): The average of sample analytical results for samples taken during the previous four calendar quarters.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals 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.

Environmental Protectional Agency/Centers for Disease Control guidelines on the appropriate means of lessening the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 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 Palm Bay Utilities Department is responsible for providing high quality drinking water but cannot control the variety of materials used in your home 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 pipes tested. Information on lead, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1 (800) 426-4791 or by visiting www.epa.gov.

2019 Water Quality Testing Data

Radiological Contaminants

Contaminant Type (Unit of Measure)	**Treatment Plant for Point of Entry** (POE) **Samples**	**Sampling Date (Mo/Yr)**	**MCL Violation (Y/N)**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely Source of Contamination**
Alpha Emitters	ASR Well	Jan–Dec 2018	No	0.602 (RAA)	ND – 3.68	0	15	Erosion of natural deposits
Combined Radium (pCi/L)	ASR Well South Regional	Jan–Dec 2018 3/7/2017	No No	0.841 (RAA) 1.18 (RAA)	ND – 1.605 N/A	0 0	5 5	Erosion of natural deposits Erosion of natural deposits

Inorganic Contaminants

Contaminant Type (Unit of Measure)	**Treatment Plant for Point of Entry** (POE) **Samples**	**Sampling Date (Mo/Yr)**	**MCL Violation (Y/N)**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely Source of Contamination**
Arsenic (ppb)	ASR Well	Jan–Dec 2018	No	0.102 (average)	ND – 0.51	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass & electronics production wastes
Barium (ppm)	North Regional South Regional ASR Well	3/7/2017 3/7/2017 3/7/2017	No No No	0.0072 0.018 0.013	N/A N/A N/A	2 2 2	2 2 2	Erosion of natural deposits; discharge from drilling wastes; discharge from metal refineries

Contaminant Type (Unit of Measure)	**Treatment Plant for Point of Entry** (POE) **Samples**	**Sampling Date (Mo/Yr)**	**MCL Violation (Y/N)**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely Source of Contamination**
Cyanide (ppb)	South Regional	3/7/2017	No	50	N/A	200	200	Discharge from steel/metal factories; discharge from plastic & fertilizer factories
Fluoride (ppm)	North Regional South Regional ASR Well	3/7/2017 3/7/2017 3/7/2017	No No No	0.15 0.088 0.25	N/A N/A N/A	4 4 4	4 4 4	Erosion of natural deposits; discharge from fertilizer & aluminum factories; water additive promoting tooth health at optimum levels

Contaminant Type (Unit of Measure)	**Treatment Plant for Point of Entry** (POE) **Samples**	**Sampling Date (Mo/Yr)**	**MCL Violation (Y/N)**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely Source of Contamination**
Lead (point of entry)	ASR Well	3/7/2017	No	0.91	N/A	0	15	Man-made pollution such as auto emissions & paint; lead pipe, casing & solder
Nitrate (ppm) [as Nitrogen]	North Regional South Regional ASR Well	3/6/2018 3/6/2018 3/6/2018	No No No	0.04 0.029 0.8	N/A N/A N/A	10 10 10	10 10 10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	North Regional South Regional ASR Well	3/7/2017 3/7/2017 3/7/2017	No No No	77.8 72.9 93.8	N/A N/A N/A	N/A N/A N/A	160 160 160	Salt water intrusion; leaching from soil

Volatile Organic Contaminants

Contaminant Type (Unit of Measure)	**Treatment Plant for Point of Entry** (POE) **Samples**	**Sampling Date (Mo/Yr)**	**MCL Violation (Y/N)**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely Source of Contamination**
Xylenes (ppm)	North Regional	Jan–Dec 2018	No	0.0029	ND 0.0029	10	10	Discharge from petroleum factories; discharge from chemical factories

Stage 2 Disinfectants and Disinfection By-Products

Contaminant Type (Unit of Measure)	**Sampling Date (Mo/Yr)**	**MCL Violation (Y/N)**	**Level Detected**	**Range of Results**	**MCLG**	**MCL**	**Likely Source of Contamination**
Chloramines (ppm)	2018	No	3.1 (RAA)	0.1 – 4.0	MRDLG = 4.0	MRDL = 4.0	Water additive to control microbes
Haloacetic acids [HAA5] (ppb)	2018	No	31.7 (LRAA)	6.24 – 37.0	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes* [TTHM] (ppb)	2018	No	37.5 (LRRA)	6.57 – 60.6	N/A	MCL = 80	By-product of water disinfection

Lead and Copper Testing (Tap Water)

Contaminant Type (Unit of Measure)	Sampling Date (Mo/Yr)	MCL Violation (Y/N)	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Copper (ppm)	Aug 2017	No	0.032	0	1.3	1.3	Natural deposits; corrosion of household plumbing systems; leaching from wood preservatives
Lead (ppb)	Aug 2017	No	2.4	0	0	15	Natural deposits; corrosion of household plumbing systems

Unregulated Contaminant Monitoring

Palm Bay Utilities 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 our UC monitoring in our annual 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."

Below are contaminants that were detected in 2018 monitoring period.

Contaminant Type (Unit of Measure)	**Sampling Date (Year)**	**Highest Level Detected**	**Range Of Results**	**Likely Source of Contamination**
Manganese(ppb) [EPTDS]‡	2018	0.55	ND - 0.55	Naturally occurrence from soil erosion Naturally present in the environment
Total organic carbon (ppb) [SR*]	2018	6650	1700 - 6650	Unknown
Bromide (ppb) [SR]	2018	2740	477 - 2740	Unknown
Bromochloroacetic acid (ppb) [DSMRT]	2018	9.8	0.57 – 9.8	Unknown
Bromodichloroacetic acid (ppb) [DSMRT]	2018	2.8	ND – 2.8	Unknown
Chlorodibromoacetic acid (ppb) [DSMRT]	2018	2.2	ND – 2.2	Unknown
Dibromoacetic acid (ppb) [DSMRT]	2018	5.9	1.2 – 5.9	Unknown
Dichloroacetic acid (ppb) [DSMRT]	2018	14	0.4 - 14	Unknown
Monobromoacetic acid (ppb) [DSMRT]	2018	0.94	ND – 0.94	Unknown
Monochloroacetic acid (ppb) [DSMRT]	2018	3.5	ND – 3.5	Unknown
Trichloroacetic acid (ppb) [DSMRT]	2018	2.6	ND – 2.6	Unknown

DSMRT: Distribution System Maximum Residence Time The sampling location where the drinking water takes the longest to travel from the EPTDS.

EPTDS: Entry Points to the Distribution System The first sampling location or the point(s) of entry into the distribution system.

***SR:** Source Water Intake Locations

Reporting Violations

***Water Quality Parameters Not Met -** On March 7th, 2018, the potable water system's alkalinity was found to be outside the recommended optimal range, which indicated that the corrosion control treatment measures required adjustment. In response, Utilities Department staff adjusted the corrosion control treatment measures on March 7th, 2018, to maintain proper pH levels; however, the alkalinity did not return to the optimal range until March 20th, 2018, primarily due to equipment failures.

For the complete list of results, including the non-detected contaminants, contact Tim VanDeventer at (321)952-3410.

For More Information

Palm Bay Utilities Department Customer Service 120 Malabar Road, SE • Palm Bay, FL 32907
(321) 952-3420
pay.palmbayflorida.org
Palm Bay Utilities Department Administration 250 Osmosis Drive, SE • Palm Bay, FL 32909
(321) 952-3410
www.pbud.org
Utilities After Hours Emergency Service
(Water & Sewer Issues Only)
(321) 952-3478

Useful Contacts

Palm Bay City Hall (321) 952-3400

Building Division (321) 953-8924

Police, Fire & Rescue (321) 952-3456 (Non-emergency)

Public Works Department (321) 952-3437

WasteManagement (321) 723-4455