ANNUAL WATER QUALITY REPORT

Reporting Year 2022

Presented By

Coral Springs Improvement District

PWS ID#: 4060291

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2022. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. Please remember that we are always available should you ever have any questions or concerns about your water.

Your Coral Springs Improvement District Board of Supervisors

Dr. Martin Shank, President

Chuck Sierra, Secretary

Len Okyn, Vice President

Community Participation

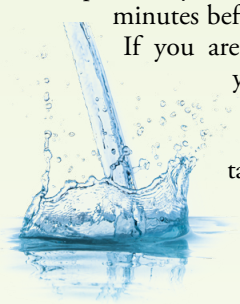
Our homeowners are invited to attend the monthly board meetings with comments and ideas about anything relating to our utility. We meet the third Monday of each month at 4:00 p.m. in the Coral Springs Improvement District Administration Building boardroom, 10300 N.W. 11th Manor. The meeting schedule is on our website at www.csidfl.org under Open Government. Please check there, as dates may change due to holidays or other scheduling conflicts.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or online at: http://water.epa.gov/drink/hotline.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 two 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 at (800) 426-4791 or at www.epa.gov/safewater/lead.



Source Water Assessment

In 2022 the Florida Department of Environmental Protection (FDEP) performed a source water assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. According to the assessment, six potential sources of contamination were identified. Four of the six were ranked at a low susceptibility level, and two were considered moderate. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Christian McShea, Chief of Water Operations, at (954) 796-6665, or email christianm@csidfl.org. You can also visit our website, www.csidfl.org, which contains helpful information about our utility.

Substances That Could Be in Water

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

Where Does Our Water Come From?

The source water for the Coral Springs Improvement District (CSID) comes from a stable groundwater supply known as the Biscayne Aquifer. This aquifer is the source of fresh water for all of Broward County. Because south Florida receives a great deal of rainfall each year, the Biscayne Aquifer is a stable and constant supply of water. Utilizing 11 wells located throughout the district, CSID pumps water from the Biscayne Aquifer to a reverse osmosis treatment plant, where it is treated and distributed. We have seven wells on standby generator power to ensure that we can provide drinking water even during severe storm events when power from FP&L may not be available. CSID continues to invest in improvements in the well field, including rehabilitation, replacement wells (when necessary), and maintenance. The wells are an essential part of our process and where it all begins.

Water Treatment Process

We have been operating our reverse osmosis process for over eight years now. This process is a low-pressure reverse osmosis system in which we purify water using cross-linked, fully aromatic polyamide composite membranes. This design provides the greatest level of protection for the public water supply. In fact, we became one of only a few certified 4-log virus inactivation facilities in Broward County starting in 2016.

Once the water arrives at the plant, it flows through three stainless steel sand strainers. Each strainer is equipped with six stainless steel filter elements that filter out any particulate larger than 50 microns. (The eye of an average needle is 1,230 microns.) After leaving the sand strainers, the water flows to the next pretreatment process, known as cartridge filtration. Just before the water flows to the cartridge filters, it is chemically conditioned to optimize treatment. There are three cartridge filter vessels; each vessel contains 176 individual filter elements that filter out impurities that are five microns or larger. These three cartridge filter vessels are capable of processing a total flow rate of over 10 million gallons per day of pretreated water.

Next, the water flows to the front of the membrane vessels, where 250-horsepower feed pumps increase the system pressure to around 100 pounds per square inch. This pressure provides the driving force needed to overcome the natural osmotic pressure of the water and allows the reverse osmosis process to begin. As this process continues, membrane elements inside the vessels separate out impurities down to 0.0005 micron to produce water with few or no physical contaminants. Each membrane element measures 8 inches in diameter and 40 inches long. There are seven elements in each vessel and 50 vessels per process train (350 elements per train). The plant is equipped with three process trains that are capable of producing a total of 6.75 million gallons of potable water per day. This treated water is known as permeate.

We bypass 10 to 15 percent of our water to blend with our permeate in order to raise the alkalinity and hardness to desirable drinking water standards. This stream receives all the same pre- and post-treatment benefits as the water treated by the membranes. Our plant is permitted to produce up to 7.4 million gallons of potable drinking water per day; however, it is capable of producing more, which can be done to help out neighboring cities in times of need (with proper notification to our governing agencies).

Since the reverse osmosis process does not remove dissolved gases such as hydrogen sulfide and carbon dioxide, the permeate and bypass water flow upward to the next process, known as degasification. Water flows downward through towers through a type of filter media resembling wiffle balls. Air is forced upward through the cascading water to remove any volatile gases and then flows into a transfer pump station. As the water is pumped out of the transfer pump station to the ground storage tanks, it is chemically treated with sodium hypochlorite, orthophosphate, sodium hydroxide, fluoride, and ammonium sulfate to provide disinfection and stabilization. The on-site water storage tanks allow contact time and stabilization to occur. The water is then pumped via our eight high-service pumps out to the distribution system and to our residents' homes.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. We are pleased to report that your drinking water meets or exceeds all federal and state requirements.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

PRIMARY REGULATED CONTAMINANTS

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Barium (ppm)	2/20/2020	No	0.00228	NA	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	1/1/2022-12/31/2022	No	0.71	0.66–0.86	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at the optimum level of 0.7 ppm
Nitrate [as nitrogen] (ppm)	03/02/2022	No	0.10	NA	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	2/20/2020	No	12.3	NA	NA	160	Saltwater intrusion; leaching from soil

STAGE 1 DISINFECTANTS AND DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION
Chloramines (ppm)	1/2022-12/2022	No	2.96	2.70–3.16	[4]	[4.0]	Water additive used to control microbes

STAGE 2 DISINFECTANTS AND DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Haloacetic Acids (five) [HAA5]–Stage 2 (ppb)	01/2022–12/2022	No	9.6	3.2–22	NA	60	By-product of drinking water disinfection
TTHM [total trihalomethanes]–Stage 2 (ppb)	1/2022-12/2022	No	19.3	3.5–55	NA	80	By-product of drinking water disinfection

Lead and Copper (Tap water samples were collected from sites throughout the community)

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	6/2020	No	0.087	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	6/2020	No	0.90	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

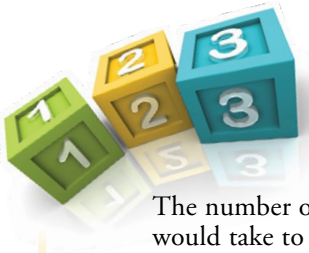
ppm (parts per million): One part substance per million parts water (or milligrams per liter).

Unregulated Contaminant Monitoring

We have been monitoring for unregulated contaminants (UCs) as part of a study to help the U.S. EPA determine the occurrence in drinking water of UCs and whether 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 U.S. EPA's Unregulated Contaminant Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

UNREGULATED CONTAMINANT MONITORING

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	LEVEL DETECTED	RANGE OF RESULTS
HAA5 (ppb)	2019	3.9	3.7–4.1
HAA6Br (ppb)	2019	0.82	0.75–0.89
HAA9 (ppb)	2019	4.75	4.6–4.9
Bromide (ppb)	2019	138	NA
Total Organic Carbon (ppb)	2019	6,460	NA



BY THE NUMBERS

800 TRILLION
The number of Olympic-sized swimming pools it would take to fill up all of Earth's water.

1
The average cost in cents for about 5 gallons of water supplied to a home in the U.S.

99
The percent of Earth's water that is salty or otherwise undrinkable, or locked away and unavailable in ice caps and glaciers.

50
The average daily number of gallons of total home water use for each person in the U.S.