WATER QUALITY REPORT 2016

A MESSAGE FROM THE DIRECTOR

The City of Margate Department of Environmental and Engineering Services (DEES) is pleased to provide you with the 2016 Water Quality Report, which shows our water quality results and what they mean. Our goal is to always provide you with a safe and dependable supply of drinking water, and as you will see from the results, **our drinking water meets or exceeds all Federal and State regulatory requirements.**

The City continues to be proactive in improving the water infrastructure and is aggressively pursuing upgrades as part of the five-year Capital Improvement Program (CIP) to facilitate treatment and supply of safe potable water to residents and businesses. In calendar year 2016, the City has replaced approximately 10,250 linear feet of old water main and plans to replace another 33,000 linear feet of water main which is in various stages of design and construction. In addition, construction of 2,400 linear feet of new water main crossing across the C-14 canal is complete and is providing improved water pressure, service redundancy, and fire flows to the southern portion of the City. As part of the water system security and redundancy improvements, the City also entered into an agreement with the Coral Springs Improvement District (CSID) for design and construction of an emergency water system interconnect to provide bulk potable water to each other during times of any temporary emergency. Other infrastructure projects in the CIP for the water system include ongoing rehabilitation of the utility aerial crossings across waterways in various parts of the City; ongoing rehabilitation of the City's 12 raw water wells; conversion to automatic meter reading system; and repair and replacement of various water treatment plant process equipment.

In addition, the City continues to encourage all residents and businesses to 1) conserve water and take advantage of the tiered water rates, which allow for lower rates for using less water, and 2) take advantage of various rebates and water conservation program incentives promoted by the City. In 2016, a total of 130 toilet replacement rebates and 236 water saving devices were issued to the City residents and businesses through the City's participation in the Broward Water Partnership program (additional information for the program is provided on page 4).

If you have questions about this report or any services offered by DEES, please call (954) 972-0828 or visit www.margatefl.com/dees. For water billing questions, call (954) 972-6454.

~Reddy Chitepu, P.E.

ARE YOU DOING YOUR PART?

The average water use in a Margate home is 185 gallons of treated water each day. To reduce your use, look for WaterSense and Energy Star labels when replacing fixtures and appliances. To help you save, the City is offering FREE water saving devices and rebates. See page 4 for details.

Water Conservation Poster Contest City Winner: Victoria A., Grade 5, Div. 3 ALCA

WATER SOURCE & OVERVIEW OF TREATMENT

The sole source of drinking water supply for the City of Margate Water Treatment Plant is the Biscayne Aquifer.

The City of Margate owns and operates two, 13.5 million gallon per day, water treatment clarifiers located at 980 NW 66th Avenue. Well water enters the treatment plant for processing. The treatment process includes aeration, lime softening to reduce hardness, followed by multi-media filtration, fluoride injection, and chlorination for disinfection purposes. Polymer is added at the softening units as a settling aid and orthophosphate is added to filters as a filtering aid. The treated water is pumped to three above ground storage tanks with a total capacity of 5.9 million gallons, and subsequently, into your homes and businesses through a network of pipes. A backup generator assures an uninterrupted supply of water even during power outages.

Dept. of Environmental & Engineering Services (DEES)
901 N.W. 66th Avenue, Ste. A, Margate, FL 33063

Water Billing: (954) 972-6454 / DEES: (954) 972-0828
After Hours Service Calls: (954) 605-9812

Web: margatefl.com/dees / E-Mail: dees@margatefl.com
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Office Hours: Mon—Thurs: 8 a.m.—6 p.m. / Operations: 24/7

CITY OF MARGATE
Together We Make It Great

SOURCE WATER ASSESSMENT & PROTECTION PROGRAM (SWAPP)

In 2016, 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. There are 29 potential sources of contamination identified for our system with varying susceptibility levels (21 sources at low, 5 sources at moderate, and 3 sources at high levels). None of the contaminants from the sources identified have been detected in our source water samples. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at **www.dep.state.fl.us/swapp** or they can be obtained from DEES by calling **(954) 972-0828** or emailing **dees@margatefl.com**.

The sources of drinking water (both tap 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:

1. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
2. 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.
3. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
4. Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also, come from gas stations, urban storm water runoff, and septic systems.
5. 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.

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 (800) 426-4791.**

DEFINITIONS

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

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

MCL (Maximum Contaminant Level): The highest level of a contaminant 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 the addition of a disinfectant is necessary for the 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.

ppm (parts per million): One part by weight of analyte to 1 million parts by weight of the water sample.

ppb (parts per billion): One part by weight of analyte to 1 billion parts by weight of the water sample.

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

N/A: Not Applicable

ABOUT THE TABLE

The City of Margate 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 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.

The DEES Water Treatment Plant processes an average of 7 million gallons of water per day and utilizes a network of 212 miles of water mains to deliver water to our customers.

Water Quality Testing Results

For the period January 1 - December 31, 2016

Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo/yr)	MCL Violation Y/N	Highest Monthly Percentage/Number (until March 31, 2016)	MCLG	MCL	Likely Source of Contamination
1a. Total Coliform Bacteria	1/2016 – 3/2016	N	3.8% / 3	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)**	**TT Violation Y/N**	**Result**	**MCLG**	**TT**	**Likely Source of Contamination**
1b. Total Coliform Bacteria	4/2016 – 12/2016	N	N/A	N/A	TT	Naturally present in the environment
Contaminant and Unit of Measurement	**Dates of sampling (mo/yr)**	**MCL Violation Y/N**	**Total Number of Positive Samples for the Year**	**MCLG**	**MCL**	**Likely Source of Contamination**
2. Fecal coliform and E.coli in the distribution system	1/2016 – 3/2016	N	3	0	0	Human and animal fecal waste

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
3. Barium (ppm)	8/2014	N	0.0064	N/A	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
4. Fluoride (ppm)	8/2014	N	0.64	N/A	4	4	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
5. Nitrate (as Nitrogen) (ppm)	8/2016	N	0.49	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
6. Sodium (ppm)	8/2014	N	41.4	N/A	N/A	160	Salt water intrusion, leaching from soil

Disinfectants

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
7. Chlorine (ppm)	1/2016 – 12/2016	N	3.0	0.70 - 3.9	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

Disinfection By-Products

Contaminant and Unit of Measurement	Dates of sampling (mo/yr)	MCL Violation (Y/N)	Level Detected (LRAA)	Range of Results	MCLG	MCL	Likely Source of Contamination
8. Haloacetic Acids (HAA5) (ppb)	1/2016 – 12/2016	N	14.6	0.67 – 21.3	N/A	60	By-product of drinking water disinfection
9. Total Trihalomethanes (TTHM) (ppb)	1/2016 – 12/2016	N	15.2	5.72 – 34.1	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
10. Copper (tap water) (ppm)	7/2015	N	0.037	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
11. Lead (tap water) (ppb)	7/2015	N	1.0	0	0	15	Corrosion of household plumbing systems; erosion of natural deposits

**The level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected.*

GENERAL HEALTH INFORMATION

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.**

FACTS ON LEAD...

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 Margate 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 at (800)426-4791** or at **http://www.epa.gov/safewater/lead.**

Connect with us...

Get City information and e-services on the web at: **margatefl.com**

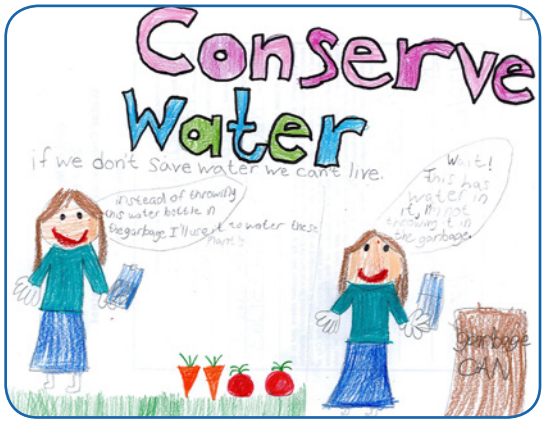
Like the City's Facebook page at: **facebook.com/CityofMargateFL**

Follow us on Twitter at: **twitter.com/CityofMargateFL**

Search for "**Our Margate**" in your smartphone app store. It's free.

WATER CONSERVATION

SAVE WATER AND MONEY WITH REBATES AND FREE DEVICES



Water Conservation Poster Contest City Winner: Rochel H.., Grade 3, Div. 2 Hebrew Academy

As a partner in the Broward Water Partnership, the City of Margate is helping residents, businesses, and non-profits save water and money by offering rebates of up to $200 for residents and up to $500 for businesses and non-profits for replacing old water-guzzling toilets with new WaterSense labeled models. To help save, the City is offering FREE high-efficiency showerheads and faucet aerators to residents, and FREE high-efficiency pre-rinse spray valves to businesses and non-profits with commercial kitchens. Pre-approval is required for rebates and the number of rebates and devices available each fiscal year is limited. Free devices are available at 901 NW 66th Ave during business hours (proof of residency required). For more information and to apply for rebates, visit **www.conservationpays.com** or call **(954) 972-0828.**

CONSERVE WATER OUTDOORS

In an effort to promote water conservation through more efficient irrigation, the City of Margate implemented permanent irrigation restrictions. **Watering may occur only before 10 a.m. or after 4 p.m. as follows:**

Water Conservation Poster Contest City Winner: Tiffany V., Grade 1, Div. 1, Margate Elementary

- Odd-numbered addresses: Wednesday, and/or Saturday
- Even-numbered addresses: Thursday, and/or Sunday

Using a "smart" irrigation controller can help further reduce irrigation by only watering when needed. To begin saving, look for an irrigation controller with the WaterSense label. For more information and tips on how to save water outdoors, please visit **https://www.epa.gov/watersense/outdoors.**

AUTOMATIC METER READING SYSTEM

In 2016, the City contracted with Zenner USA to convert existing water meter reading infrastructure to Automatic Meter Reading (AMR) system. The AMR system allows reading the water meters over a wireless network eliminating the need for personnel to physically visit each meter to take the reading, and this new system will be a drastic improvement to meter reading efficiency. In addition to the labor cost savings, the system allows for early detection and reporting of leaks; water conservation monitoring and reporting; and eliminates the need for estimated bills. A total of 4,500 residential meters and all of 1,900 commercial meters were converted to the AMR system through the end of 2016. The remaining meters (approximately 10,000) are scheduled to be converted through 2019.

This report will be available on the City's website at www.margatefl.com/ccr2016. It will be mailed to customers only upon request and is also available at City of Margate facilities including City Hall, Department of Environmental and Engineering Services Administration Building, Broward County Margate Catharine Young Library, Northwest Focal Point Senior Center, and various parks and recreation facilities throughout the City.