



ANNUAL DRINKING WATER QUALITY REPORT

2016 SUMMARY

Dear Water Services Customers,

As Mayor, I present to you The City of Frederick's Annual Drinking Water Quality Report. We developed this report to provide information to our customers about the source and quality of City drinking water. This annual consumer confidence report (CCR) is a regulatory requirement, and I hope it helps demonstrate to our customers that our drinking water meets or surpasses all State and Federal safe drinking water requirements.

Recently, water quality has become a nationwide topic, with stories like those in Flint, Michigan, making headlines. Please be assured that The City of Frederick takes pride in providing the highest quality drinking water to you, our residents and businesses. The staff of the City's water division works around the clock to provide the quality services that our consumers have come to expect. It is their responsibility to perform the routine maintenance, skilled operations, and laboratory analysis required to produce the highest quality of clean and dependable drinking water. We hold ourselves to the highest standard because that is what we believe our customers deserve.

The tables that follow summarize our 2016 drinking water test results. The drinking water provided by The City of Frederick during the past calendar year has again met all of the Environmental Protection Agency (EPA) and State of Maryland health standards for drinking water contaminants. There were no contaminant level violations.

I invite you to take some time to read this report, as it will provide insight into the contaminant monitoring that has been performed to ensure the high quality of our drinking water. Through the dedication and hard work of our City staff, you are receiving the cleanest possible drinking water.

Sincerely,
Mayor Randy McClement



Randy McClement
Mayor
The City of Frederick

TESTING REQUIREMENTS

The State of Maryland and the EPA require water suppliers to perform contaminant testing on their drinking waters and to report the results on a regular basis. These regulatory requirements are based upon the current federal *Safe Drinking Water Act* (SDWA) and are designed to ensure the quality of your drinking water. This annual summary is prepared after the end of each calendar year to keep our consumers informed. Once updated, the report gets posted to the City website for viewing, and public notices of availability are made no later than June 30 of each year.

ABOUT THE DATA

Most of the information shown in the data tables is from samples collected during 2016, but some contaminants are not monitored for every year. Data not from 2016 will be noted as such. Data associated with a particular water source has been identified by the water plant name in the data tables. Many other contaminants have been tested for but not detected, including organic chemicals such as industrial solvents and pesticides, inorganic contaminants such as metals, and radioactive compounds like radon. Space does not permit listing all of them here. Please call the number listed under the City contacts section for technical information if you have questions relating to The City of Frederick's drinking water monitoring program.

CONTAMINANT INFORMATION

Although there were detections of some contaminants in City water, all of those found were at safe levels. All drinking water sources are subject to potential contamination by substances that occur naturally or are manmade. As water travels over the surface of land or through the ground, some of these substances can be picked up and transported with the water. These can be microbes, organic or inorganic chemicals, or radioactive substances. All drinking water, including bottled water, may 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 can be obtained from the Environmental Protection Agency's Safe Drinking Water Hotline at (800-426-4791), or at the EPA website www.epa.gov/safewater

PRECAUTIONS FOR VULNERABLE POPULATIONS

The City of Frederick reminds those who may have weakened immune systems that any drinking water (tap or bottled) should not be considered sterile. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy, those who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from microbial infections. These people should seek advice about drinking water from their healthcare providers. Guidelines developed by the EPA and Centers for Disease Control (CDC) on ways to lessen the risk of infection from microbial contaminants like *Cryptosporidium* are available by calling the Safe Drinking Water Hotline at (800-426-4791) or visiting www.epa.gov/safewater

GENERAL INFORMATION ABOUT LEAD IN DRINKING WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water comes primarily from service lines and home piping that contains lead components. The City of Frederick is responsible for providing high quality drinking water, but cannot control the variety of materials used in all 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 the water for drinking or cooking. City water meets all current lead contamination standards, but if you are concerned about lead in your tap water, you may want to have your water tested. More information on lead in drinking water is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at the EPA website www.epa.gov/safewater/lead.

SOURCE WATER ASSESSMENTS

The Maryland Department of Environment (MDE) has completed source water assessments on the vulnerability of all State water sources to contamination. Contaminants of concern for City sources include disinfection byproducts precursors, sediment, herbicides, and coliform bacteria. For more information about or copies of the full assessment reports, you may call the Maryland Department of Environment - Source Protection Division at 410-537-3714 or the technical information number listed under the City contacts section.

CITY WATER SOURCES

During 2016 The City of Frederick utilized four different water sources to supply our service area. During the past year, you might have received treated water from any one of these sources or a mixture of them, depending upon your location within our service area. The average daily production from all sources was approximately **6.20** million gallons per day. The percentage of drinking water supplied by each of the four water sources utilized during the calendar year was as follows:



47% came from the **Linganore Creek Source**



25% came from the **Monocacy River Source**



13% came from the **Fishing Creek Source**



15% came from the **Potomac River Source**

DEFINITIONS OF ABBREVIATIONS AND TERMS USED IN THIS REPORT

In the data tables, you will see terminology and acronyms with which you may not be familiar. To help you understand this information, please note the following definitions:

MCLG - Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety. These goals represent a target level for a contaminant that is not necessarily achievable with standard treatment

MCL - Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water, based on present regulations as set by the EPA. To protect the public health, MCLs are set as close to the MCLGs as feasible, based on the best treatment technology currently available

AL - Action Level - The concentration of a contaminant, which, if exceeded, triggers special treatment or other requirements that a water system must follow. Functions as a type of MCL.

LRAA - Locational Running Annual Average - Applies to disinfection byproducts. Quarterly test results from each sample location are used to calculate a running annual average for compliance monitoring

TT - Treatment Technique - A required process intended to reduce the level of a specific contaminant in water

NTU - Nephelometric Turbidity Unit - A unit of measure for the cloudiness or clarity of the water

PPM - Parts Per Million - Unit of measure meaning one part contaminant to one million parts water (equivalent to milligrams per liter)

PPB - Parts Per Billion - Unit of measure meaning one part contaminant to one billion parts water (equivalent to micrograms per liter)

REGULATED CONTAMINANTS — CITY WATER PLANTS — 2016

2016 CCR—PWSID # MD0100015				DATA FROM ALL TREATED WATER SOURCES		
CONTAMINANT	UNITS	MCLG	MCL	REPORT RESULT ¹	RANGE ²	VIOLATION
FLUORIDE	PPM	4	4	1.0	0.1—1.0	No
NITRATE	PPM	10	10	2.0	0—2.0	No
BARIUM	PPM	2	2	0.05	0—0.05	No
CHROMIUM	PPB	100	100	1.0	0—1.0	No
ATRAZINE	PPB	3	3	0.46	0—0.46	No
SIMIZINE	PPB	4	4	0.28	0—0.28	No
TURBIDITY (TT) MAXIMUM	NTU	0.00	1.00	0.30	0.02—0.30	No
TURBIDITY (TT) VALUES >0.3 NTU	%	0	5	0.0	NA	No
TOTAL ORGANIC CARBON (TT)	%	NA	NA	Met % Removal Requirements	NA	No

1. Result column shows the reportable value as defined by EPA guidance for preparation of Consumer Confidence Reports.
2. Range shows the highest and lowest reported test values when more than one sample was tested during the calendar year.
3. NA in table means not applicable to that contaminant.

REGULATED CONTAMINANTS—CITY DISTRIBUTION SYSTEM—2016

CONTAMINANT	UNITS	MCLG	MCL	REPORT RESULT	RANGE	VIOLATION
COLIFORM BACTERIA	%	0	5	0	None	No
CHLORINE (MRDL)	PPM	4	4	1.2	1.1—1.2	No
TOTAL TRIHALOMETHANES (THM) ¹	PPB	NA	80	71	12.1—108.6	No
TOTAL HALOACETIC ACIDS (HAA) ¹	PPB	NA	60	46	13.4—91.3	No
COPPER ² (AL)	PPB	1300	1300	116	4.4 — 180	No
LEAD ² (AL)	PPB	0	15	1.21	< 1 — 3.3	No

1. Values shown for THM and HAA are the highest Locational Running Annual Averages (LRAA) calculated by MDE for the reporting period.
2. Tests for Lead and Copper were last made during 2015, and are scheduled to be performed again during summer of 2018.

TYPICAL SOURCES OF REGULATED CONTAMINANTS

CONTAMINANT	TYPICAL SOURCE OF CONTAMINANT
BARIUM	Erosion of natural barium deposits
CHLORINE	Disinfectant additive which controls growth of microbes in water
CHROMIUM	Industrial discharge and erosion of natural deposits in watershed
FLUORIDE	Additive which promotes strong teeth and reduces incidence of cavities
NITRATE	Runoff from fertilizer use; discharges from sewage treatment plants; leachate from septic systems; natural deposits
LEAD	Corrosion of plumbing systems that have lead components
COPPER	Corrosion of plumbing systems that have copper components.
SIMIZINE	Runoff following the use of this herbicide
ATRAZINE	Runoff following the use of this herbicide
TURBIDITY	Runoff of soil and other particles; Turbidity measurements are used to gauge the effectiveness of our water filtration systems
TOTAL TRIHALOMETHANES (THM)	By-products of drinking water chlorination. Includes bromoform, bromodichloromethane, chlorodibromomethane, chloroform
TOTAL HALOACETIC ACIDS (HAA)	By-products of drinking water chlorination. Includes mono and dichloro- aceticacid, mono and dibromoaceticacid, trichloroaceticacid
TOTAL ORGANIC CARBON (TOC)	Natural and manmade sources. Reducing TOC levels prior to addition of disinfectants helps lower the formation of disinfection byproducts.

UNREGULATED CONTAMINANTS — CITY DRINKING WATER PLANTS — 2016

CONTAMINANT	UNITS	MCL	REPORT LEVEL	RANGE	VIOLATION	TYPICAL SOURCE
HARDNESS¹	PPM	None	100	24—197	No	Natural Deposits
SODIUM	PPM	None	23.3	1.2—23.3	No	Natural Deposits
SULFATE	PPM	None	52.4	2.1—52.4	No	Natural Deposits

1. Hardness value shown is an annual average value and is a measure of calcium and magnesium expressed as calcium carbonate by weight. The ppm hardness value can be converted into the approximate grains per gallon by dividing the value shown by 17.

OTHER UNREGULATED CONTAMINANTS — CITY UNTREATED SOURCE WATER — 2016

CONTAMINANT	UNITS	MCL	REPORT LEVEL	RANGE	VIOLATION	TYPICAL SOURCE
CRYPTOSPORIDIUM¹	Oocysts/L	None	0.09	0—0.09	No	Farmland Runoff

1. This special occurrence testing for the unregulated microbe **Cryptosporidium** was started in October 2015 and will end in October of 2017. The level detected in our raw water was very low, and our filtration processes are effective at removing Cryptosporidium, so there is minimal risk for the presence of this pathogen in finished City tap water. EPA may require finished water testing for Crypto in the future.



PRSRT STD
U.S. POSTAGE
PAID
FREDERICK, MD
PERMIT No. 48

101 North Court St.
Frederick, MD 21701
www.cityoffrederick.com

Randy McClement
Mayor

Board of Aldermen
Kelly Russell
President Pro Tem

Michael O'Connor
Philip Dacey
Joshua Bokee
Donna Kuzemchak



PWSID NO.—MD0100015

2016 ANNUAL DRINKING WATER QUALITY REPORT

PUBLIC INVOLVEMENT OPPORTUNITIES

The public is encouraged and invited to participate and provide input on drinking water issues.

Mayor and Board of Aldermen Public Meetings are held at City Hall every 1st & 3rd Thursday of each month at 7:00 p.m.

CITY CONTACTS

To request a paper copy of this report or general information, call 301-600-1681.

For technical information on contaminant testing or results, call 301-600-1473.

For information on our water treatment plants or processes, call 301-600-1186.

THIS REPORT CAN BE VIEWED AND PRINTED ONLINE AT:
www.cityoffrederick.com/ccr

Un mensaje para nuestros clientes de habla español:
Este informe contiene información importante sobre su agua potable.
Favor busque a alguien que pueda traducirlo para usted o explicar su contenido, ya que es algo muy importante.