

Annual Drinking Water Quality Report
City of Bowie
January 1 to December 31, 2017

Public Drinking Water System #016-0002

We are pleased to present to you another in a series of annual water reports that will keep you informed about the City of Bowie's efforts to supply quality water and services to you every day.

An annual report will be available by July 1 of each year that will keep you informed of the previous calendar year's water quality.

This Water Quality Report is for those areas that are served by the City of Bowie Water Plant and should not be confused with areas served by the Washington Suburban Sanitary Commission.

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:

- 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 minerals, which can be naturally occurring or result from urban storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile 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.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining.

The source waters for the City's consumption is ground water obtained from six wells in three major underground confined aquifers: Well #1 - Magothy formation; Wells #2R, #3, #6 - Patapsco formation; and Wells #4R and #5 - Patuxent formation. These aquifers range in depth from approximately 200 feet to 1,160 feet. To protect this resource, the City has identified potential sources of contamination through the development of a Wellhead Protection Plan. The Wellhead Protection Report also contains information on delineated wellhead protection areas and aquifer recharge areas. The Wellhead Protection Report is available for viewing at the Bowie Branch Library.

Confined aquifers such as those used by the City of Bowie afford very good protection from surface contaminants, but we are constantly monitoring our water supply to maintain high water quality standards. The Maryland Department of the Environment has performed a Source Water Assessment for the City of Bowie. The Summary of the assessment is included with this report. The complete Source Water Assessment can be viewed at the Bowie Branch Library and on the City of Bowie website – www.cityofbowie.org.

The following report is designed to inform you of water quality standards and what they mean. If you have any questions regarding this report, please contact Terence Bradley, City of Bowie Water Plant Superintendent, 301-809-3060.

This Water Quality Report covers the period of January 1 to December 31, 2017. The City of Bowie and the Maryland Department of the Environment routinely monitor your drinking water to detect contaminants, according to Federal and State laws. Drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

The City of Bowie's water is tested for over 100 contaminants. Only regulated contaminants or unregulated contaminants that are required to be monitored that are at or above the Minimum Detection Level, are required to be in the Annual Drinking Water Quality Report. If you would like a copy of the complete listing of contaminants that have undergone testing, there will be copies available at the reception desk or the Finance Department at City Hall. The complete listing of tested contaminants and the Annual Drinking Water Quality Report will also be available on the City's website – www.cityofbowie.org.

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 Bowie 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your drinking 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 EPA Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Citizens are urged to participate in all matters related to the City by attending City Council meetings. This is also true with water related matters, be they infrastructure or water quality. City Council meetings are usually held the first and third Mondays of each month. Check your local newspaper, the City's website – www.cityofbowie.org, or contact City Hall at 301-262-6200 for scheduling. All meetings are held in the Council Chambers at City Hall, located at 15901 Excalibur Road.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised people such as people with cancer undergoing chemotherapy, people 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 provider. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

The chart that follows in this report contains terms and abbreviations that you may not be familiar with. To help provide a better understanding of the terms used, the following definitions and statements are provided:

- Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. The 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.
- Parts Per Million (PPM): One PPM is equal to one milligram per liter and is equivalent to one drop in 10 gallons.
- Parts Per Billion (PPB): One PPB is equal to one microgram per liter and is equivalent to one drop in 10,000 gallons.
- picoCuries Per Liter (pCi/L): A unit of measurement used to describe the level of activity or decay of a radioactive element.
- Locational Running Annual Average (LRAA): Is the highest Running Annual Average calculated for each of the four monitoring locations required for testing and is not to be confused with an arithmetic average of all results.

- **Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements the system must follow.
- **Monitoring Frequency:** The State does not require annual monitoring for contaminants because the concentration of these contaminants does not change frequently. Therefore, some of our data, though representative, is more than one year old.

Of Special Note

Mailing of the City of Bowie Water Quality Report to all customers was discontinued in 2014 but the Report is available online at www.cityofbowie.org/wqr. Reminders about where to obtain the Water Quality Report will also be printed on your water bill. To request a printed copy of the Report, please call the Water Plant at 301-809-3060.

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Contaminant	Test Results	MCL	MCLG	Test Date	Sources of Contamination
Nitrate	N/D	10 PPM	10 PPM	1/9/17	Runoff from Fertilizer
Fluoride	0.60 PPM	4 PPM	4 PPM	1/11/17	Erosion of Natural Deposits; Additive to Drinking Water
Gross Alpha	3.8 pCi/L	15 pCi/L	0	9/20/13	Erosion of Natural Deposits
Gross Beta	6.5 pCi/L	50 pCi/L	0	9/20/13	Erosion of Natural Deposits
Combined Radium (226 & 228)	0.6 pCi/L	5 pCi/L	0	11/8/13	Erosion of Natural Deposits
Total Trihalomethanes		80 PPB	N/A		By-product of Drinking Water Chlorination
Detected Range	2.36 - 24.3 PPB			2017	
Average	13.3 PPB				
LRAA	12.0 PPB				
Haloacetic Acids		60 PPB	N/A		By-product of Drinking Water Chlorination
Detected Range	N/D – 7.2 PPB			2017	
Average	3.6 PPB				
LRAA	3.0 PPB				
The Action Level for Lead is 15 PPB @ the 90th percentile level of all samples taken.					
Lead	< 5 PPB	15 PPB	0	2017	Corrosion of Household Plumbing Systems; Erosion of Natural Products
The Action Level for Copper is 1.3 PPM @ the 90th percentile level of all samples taken.					
Copper	0.06 PPM	1.3 PPM	1.3 PPM	2017	Corrosion of Household Plumbing Systems; Erosion of Natural Deposits; Leaching from Wood Preservatives

Unregulated Contaminant Monitoring

Contaminant	Test Results	MCL	MCLG	Test Date	
Chlorate		N/A	N/A		Unregulated Contaminant Monitoring helps EPA to determine where certain Contaminants occur and whether the agency should consider regulating those contaminants in the future.
Detected Range	24-46 PPB			2013	
Average	35 PPB			2013	
Chromium 6		N/A	N/A		
Detected Range	N/D - .051 PPB			2013	
Average	.026 PPB			2013	
Strontium		N/A	N/A		
Detected Range	26-31 PPB			2013	
Average	29 PPB			2013	

N/A = Where N/A appears, the MCL or MCLG have not been set by the EPA.

N/D = Where N/D appears, the contaminant monitored for was not detected.

Maryland Department of the Environment Source Water Summary

The Maryland Department of the Environment's (MDE) Water Supply Program has conducted a Source Water Assessment for the City of Bowie. The major Components of this report as described in Maryland's Source Water Assessment Plan (SWAP) are: 1) delineation of an area that contributed water to the source; 2) identification of potential sources of contamination; 3) determination of susceptibility of the water supply to contamination. Recommendations for management of the assessment area conclude this report.

The sources of Bowie's water supply are three Coastal Plain confined aquifers – the Magothy, Patapsco and Patuxent. Six wells are currently being used to pump the water out of these aquifers. The source water assessment area was delineated by the Water Supply Program using methods approved by the U.S. EPA.

Potential sources of contamination within the assessment were identified based on MDE site visits, a review of MDE's databases. Well information and water quality data were also reviewed.

The susceptibility analysis for Bowie's water supply is based on a review of the water quality data, potential sources of contamination, aquifer characteristics, and well integrity. It was determined that Bowie's water supply is not susceptible to contaminants originating at the land surface due to the protected nature of confined aquifers. The water supply is susceptible to naturally occurring iron in the aquifers. The system has installed treatment to remove iron from the raw water.