

***Annual Drinking Water Quality Report***  
***Epping Forest Water Works***  
***May 2016***  
*Public Water System Identification No. 0020011*

We are pleased to provide you with this year's Annual Water Quality Report. This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our water source for Calendar Year 2015 was ground water from two wells, Well 2 and Well 3, both listed by the State as being drilled into the Magothy Aquifer. Well 2 (Tag No. AA731300) is located at the west edge of the community clubhouse parking area. Well 2 was drilled in May, 1973 and is approximately 105 feet deep (from ground level to bottom of stainless steel screen); it is the well nearest to the clubhouse. Well 3 (Tag No. AA947471) was drilled in January, 2002 and is approximately 100 feet south of Well 2 at the west edge of the tennis courts; it is approximately 192 feet deep. Our main source of water for Calendar Year 2015 was Well 3. The Well 3 water has approximately half the dissolved iron as compared to Well 2 water, rendering its treatment less expensive. It is likely that Well 3 is drawing water from the Patapsco Aquifer, which is the next aquifer below the Magothy Aquifer. Epping Forest Water Works adds sodium carbonate (soda ash) and sodium hypochlorite (chlorine) to the water in its treatment process. We do not add fluoride.

In January, 2004, we were informed that the Maryland Department of the Environment's Water Supply Program (WSP) had conducted a Source Water Assessment for twenty-four community water systems in Anne Arundel County, including the Epping Forest water system. The assessment included 1) delineation of an area that contributes water to each source, 2) identification of potential sources of contamination within the areas, and 3) determination of the susceptibility of each water supply to contamination.

The water supply sources of the twenty-four community systems in Anne Arundel County are naturally protected confined aquifers of the Atlantic Coastal Plain physiographic province. The Epping Forest water system is currently listed as using two wells that pump water from the Magothy Formation. Potential point sources of contamination were researched and identified by WSP within the assessment areas from field inspections and contaminant and well inventory databases. Well information and water quality data were also reviewed.

The susceptibility analysis was based on a review of the existing water quality data for each water system, the presence of potential sources of contamination in the individual assessment areas, well integrity, and aquifer characteristics. It was determined by WSP that the Epping Forest water supply is not susceptible to radionuclides, volatile organic compounds, synthetic organic compounds, or microbiologic contaminants originating at the land surface due to the protected nature of confined aquifers. The Patapsco Aquifer, like the Magothy aquifer, is also a confined aquifer. Both of these confined aquifers are "sandwiched" by clay layers above them and also below them.

If you have any questions about this report or concerning your water utility, please contact Brad Mudd, Water Works Chairman (410) 849-2296, James Goodman, (410) 849-8439, Mike Lytle, (410) 849-2836, or John Cutcher (410) 849-2224. We want our valued customers to be informed about their water utility.

Epping Forest Water Works routinely monitors for over 100 potential contaminants in your drinking water according to Federal and State laws. The tables below show the results of this testing for the period of January 1 to December 31, 2015, along with older data. All contaminants that were present in your drinking water at levels detectable by laboratory equipment are shown in the tables. In these tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - not detectable at testing limit.

ppm - Milligrams per liter or parts per million, or one ounce in 7,350 gallons of water.

ppb - Micrograms per liter or parts per billion, or one ounce in 7,350,000 gallons of water.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Action Level Goal (ALG) - The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

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

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 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 Residual Disinfectant Level Goal or MRDLG - 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

Maximum Residual Disinfectant Level or MRDL - 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.

Avg - Regulatory compliance with some MCLs is based on running annual average of monthly samples.

N/A - Not Applicable

## Regulated Contaminants Detected

### Lead and Copper

Lead and Copper	Date of Sample	MCLG	Action Level (AL)	Level Detected (90th Percentile)	Number of Sites Over AL	Units	Violation Y/N	Likely Source of Contamination
Copper	6/8/15	1.3	1.3	0.26	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead	6/6/15 to 6/10/15	0	15	Less than 5	0	ppb	N	Corrosion of household plumbing systems; erosion of natural deposits

Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Lead. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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 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 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>.

## Radioactive Contaminants

Radioactive Contaminants	Date of Sample	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation Y/N	Likely Source of Contamination
Beta/photon emitters	10/02/14	4	4 - 4	0	50	pCi/L	N	Decay of natural and man-made deposits.
Radium 228	10/02/14	1.6	1.6 - 1.6	0	5	pCi/L	N	Erosion of natural deposits.

Beta/photon emitters. Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Radium 228. Some people who drink water containing radium 228 in excess of EPA's standard over many years may have an increased risk of getting cancer.

## Inorganic Contaminants

Inorganic Contaminants	Date of Sample	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation Y/N	Likely Source of Contamination
Fluoride	1/14/15	0.2	0.2 - 0.2	4	4.0	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

Fluoride. Many communities add fluoride to their drinking water to promote dental health. Each community makes its own decision about whether or not to add fluoride. EPA has set an enforceable drinking water standard for fluoride of 4 mg/L (some people who drink water containing fluoride in excess of this level over many years could get bone disease, including pain and tenderness of the bones). EPA has also set a secondary fluoride standard of 2 mg/L to protect against dental fluorosis. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should not drink water that has more than 2 mg/L of fluoride.

## Disinfectants and Disinfection By-Products

Disinfectants and Disinfection By-Products	Date of Sample	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation Y/N	Likely Source of Contamination
Chlorine	1/1/15 to 12/31/15	0.82	0.08 to 0.82	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	8/10/15	4	4.1 - 4.1	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Tri-halomethanes (TTHM)	8/10/15	9	8.7 - 8.7	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

*Chlorine data is from chlorine residual samples taken by Water Testing Labs of Md. during the (12) monthly bacteriological sampling tests of Calendar Year 2015.*

Total Trihalomethanes [TTHMs]. Disinfection byproducts form when disinfectants added to drinking water to kill germs react with naturally-occurring organic matter in water. Total trihalomethanes are measured as the sum concentration of chloroform, bromoform, bromodichloromethane, and dibromochloromethane. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Haloacetic Acids [HAA5]. Haloacetic Acids are a group of chemicals that are formed along with other disinfection byproducts when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. The five regulated haloacetic acids, known as HAA5, are: monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid. Some people who drink water containing haloacetic acids in excess of EPA's standard over many years may have an increased risk of getting cancer.

## Unregulated Contaminants Detected

### Unregulated Contaminants

Unregulated Contaminants	Date of Sample	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation Y/N	Likely Source of Contamination
Sodium	1/12	60	60 - 60	N/A	N/A	ppm	N	Naturally present in the environment; byproduct of drinking water treatment processes.
Chloroform	8/14/15	0.5	0.5 - 0.5	N/A	N/A	ppb	N	By-product of drinking water disinfection.
Bromoform	8/14/15	3.3	3.3 - 3.3	N/A	N/A	ppb	N	By-product of drinking water disinfection.
Bromodi-chloromethane	8/14/15	1.4	1.4 - 1.4	N/A	N/A	ppb	N	By-product of drinking water disinfection.
Dibromochloro-methane	8/14/15	3.5	3.5 - 3.5	N/A	N/A	ppb	N	By-product of drinking water disinfection.

Sodium. Testing is required by EPA to determine if an MCL/health standard should be set. High levels of sodium intake may be associated with hypertension in some individuals.

Chloroform. Testing is required by EPA to determine if an MCL/health standard should be set. (See Total Trihalomethanes [TTHMs] notes in the Disinfectants and Disinfection By-Products Table above).

Bromoform. Testing is required by EPA to determine if an MCL/health standard should be set. (See Total Trihalomethanes [TTHMs] notes in the Disinfectants and Disinfection By-Products Table above).

Bromodichloromethane. Testing is required by EPA to determine if an MCL/health standard should be set. (See Total Trihalomethanes [TTHMs] notes in the Disinfectants and Disinfection By-Products Table above).

Dibromochloromethane. Testing is required by EPA to determine if an MCL/health standard should be set. (See Total Trihalomethanes [TTHMs] notes in the Disinfectants and Disinfection By-Products Table above).

As you can see by the tables, our water system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

### **Source of Drinking 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 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 organic 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 activities.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man-made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

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).

Regularly scheduled meetings of the Epping Forest Board of Directors are held the third Wednesday of each month at the Community Clubhouse starting at 7:30 PM. Public participation in decisions that may affect the quality of the water produced by Epping Forest Water Works are welcome.

Thank you for allowing us to continue providing you with clean, quality water this year. In order to maintain a safe and dependable water supply we have limited summertime lawn sprinkling and we occasionally need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

Please call us if you have questions.