



2014 Annual Water Quality Report

Bel Air District
PWS ID: MD0120003



This report contains important information about your drinking water. If you do not understand it, please have someone translate it for you.

Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que lo entienda bien.

Continuing our Commitment A Message from Maryland State President

To Our Valued Customer:

Maryland American Water is proud to be your local water service provider, and I am pleased to share with you good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report – and like so many years prior – we continue to supply water that meets or surpasses all state and federal water quality regulations for **less than a penny per gallon—an exceptional value.**



This is no small task. Quite a lot goes into bringing that water to your home. The miles of pipeline hidden below the ground. The facilities that draw water from the source. The plant where it's treated and tested. Our treatment plant operators, water quality experts, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Delivering high-quality, reliable water service to your tap around the clock also requires significant investment in our water infrastructure to upgrade aging facilities. In 2014 alone, we invested more than \$638,888 in water system improvements statewide.

We do this because we believe we're delivering more than just water service. We deliver a key resource for public health, fire protection, the economy and overall quality of life. Our job is to ensure that quality water keeps flowing not only today, but well into the future. It's part of our commitment to you and the communities we serve.

We hope you agree, it's worth every penny and worth learning more about. Please, take the time to review this report. It provides details about the source and quality of your drinking water using the data from water quality testing conducted for your local water system from January through December 2014.

Thanks for allowing us to serve you.

Sincerely,

William Walsh
President, Maryland American Water

Water Information Sources

Maryland American Water (MD-AW) (www.amwater.com/mdaw/), a subsidiary of American Water (NYSE: AWK), provides high-quality and reliable water services to approximately 20,000 people in the City of Bel Air and parts of Harford County, Maryland. Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 6,400 dedicated professionals who provide drinking water, wastewater and other related services to an estimated 15 million people in more than 45 states, and parts of Canada. More information can be found by visiting www.amwater.com.

The web sites of U. S. Environmental Protection Agency (USEPA) Office of Water, the Centers for Disease Control and Prevention, and Maryland Department of Environment (MDE) provide a substantial amount of information on many issues relating to water resources, water conservation and public health. You may visit these sites as well as Maryland American Water's website at the following addresses:



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WE CARE ABOUT WATER. IT'S WHAT WE DO.®

Centers for Disease Control and Prevention
www.cdc.gov

United States Environmental Protection Agency (USEPA)
www.epa.gov/safewater

Maryland Department of the Environment
www.mde.state.md.us

Maryland American Water
www.amwater.com/mdaw/

American Water Works Association
www.awwa.org

Safe Drinking Water Hotline: (800) 426-4791

How is Your Water Treated?

Water sources for Bel Air include surface water (Winter's Run), ground water and purchased water from Harford County. Current surface water treatment processes include coagulation and settling followed by filtration and disinfection. An inhibitor is added for corrosion control and fluoridation is provided for reduction of dental cavities. Throughout the process dedicated plant operations and water quality staff continuously monitor and control these plant processes to assure you, our customers, superior quality water.

Water Conservation Tips

Conservation measures you can use inside your home include:

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices in faucets, toilets and appliances.
- Wash only full loads of laundry.
- Do not use the toilet for trash disposal.
- Take shorter showers.
- Do not let the water run while shaving or brushing teeth.
- Soak dishes before washing.
- Run the dishwasher only when full.

You can conserve outdoors as well:

- Water the lawn and garden in the early morning or evening.
- Use mulch around plants and shrubs.
- Repair leaks in faucets and hoses.
- Use water-saving nozzles.
- Use water from a bucket to wash your car, and save the hose for rinsing.

Source Water Assessment Completed

A Source Water Assessment Program (SWAP) is a result of the 1996 amendments to the Federal Safe Drinking Water Act (SDWA). Those amendments require all states to establish a program to assess the vulnerability of public water systems to potential contamination. The Maryland Department of Environment (MDE) completed the Source Water Assessment for Winters Run in 2004. The assessment found that Winters Run is potentially susceptible to contamination from transportation spills,

runoff from roads, parking lots and agricultural land. More detailed information regarding the Source Water Assessment for Winters Run can be found by contacting the Maryland Department of the Environment at (800) 633-6101.

MDE also performed a Comprehensive Performance Evaluation (CPE) in 2007. MD-AW has made progress on many of their recommendations. This included development of Water Treatment Goals; successful trial run with another coagulant and review of sedimentation design, all to improve and optimize plant performance; and the completion and update of some of the plant operating procedures. More detailed information regarding the CPE for Winters Run can be found by contacting the Maryland Department of the Environment at (800) 633-6101.

Where Does My Water Come From?

The sources of supply for the Town of Bel Air and portions of Harford County are Winters Run (a surface supply) and two (2) wells. Intakes along the banks of Winters Run bring water into the treatment plant. Our water supply is part of the Bush River Basin with the watershed for Winters Run covering an area of roughly 35 square miles. Much of the watershed is agricultural. Also adjacent to the banks of Winters Run is a source water well which is also treated at the plant. We have an additional well located on property owned by the Town of Bel Air's Department of Public Works. This well water is treated on site and directly pumped into the distribution system.

There is also an interconnection with the Harford County water system, from which we purchase treated water as needed. The supply sources for Harford County water system are the Loch Raven Reservoir, the Susquehanna River and seven wells in the area.

How much sodium is in your water?

The sodium level for American Water was 43.1 ppm. These concentrations exceed the recommended maximum contaminant level guidance of 20 ppm for persons on a "strict" sodium intake diet.

What is the pH (acidity) range of your water?

Water in the distribution system averages about 7.01 pH units. A pH of 7.0 is considered neutral, neither acidic nor basic.

Is there fluoride in your water?

Maryland American Water adds fluoride to your water at an average dose of about 0.7 ppm.

Share This Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important information with water users at their location who are not billed customers of Maryland American Water and therefore do not receive this report directly.

Special Monitoring



Monitoring for contaminants in accordance with the Unregulated Contaminant Monitoring Rule (UCMR3) began in 2014.

Substances Expected to be in Drinking Water

To ensure that tap water is of high quality, U.S. Environmental Protection Agency prescribes regulations limiting the amount of certain substances in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Maryland American Water's advanced water treatment processes are designed to reduce any such substances to levels well below any health concern.

The source of drinking water (both tap water and bottled water) includes 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, or wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems.

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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. USEPA/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 (800-426-4791) or by calling our Customer Service Center at (800) 685-8660.

Information About Lead

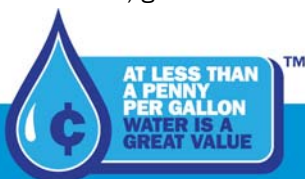
Is there lead in my water?

Although we regularly test lead levels in your drinking water, it is possible that lead and/or copper levels at your home are higher because of materials used in your plumbing. If present, elevated levels of lead can cause serious 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. Maryland American Water 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 and copper exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. You can also use cold water for cooking, drinking, or making baby formula; use low lead containing faucets; and when replacing or working on pipes, use lead-free solder. Maryland American Water remains in full compliance with all of the requirements dealing with lead in drinking water. 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 National Lead Information Center (800-LEAD-FYI) or the USEPA Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Cryptosporidium

Cryptosporidium is a single cell microbial organism found in surface water throughout the US. During its life cycle it matures into resistant cells called oocysts that can be shed in feces. The disease caused by *Cryptosporidium* is called Cryptosporidiosis and is caused by infection with oocysts. People can be exposed to oocysts from other people, animals, water, swimming pools, fresh food, soils, and any surface that has not been sanitized after exposure to feces. Symptoms range from a mild to incapacitating diarrhea, cramps, loss of appetite, weight loss, nausea, and low-grade fever.

Although *Cryptosporidium* can be removed through commonly-used filtration methods, USEPA issued a new rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. The USEPA created this rule (Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)) to provide for increased protection against microbial pathogens, such as *Cryptosporidium*, in public water systems that use surface water sources. In anticipation of this upcoming rule, Bel Air Plant started monitoring for *Cryptosporidium* in its raw water in 2005



and completed it in 2007. Results show additional treatment is not required.

How to Read the Data Tables

Maryland American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the tables below. While most monitoring was conducted in 2014, certain substances are required to be monitored less than once per year and represent the most current results available. For help with interpreting this table, see the "Table Definitions" section.

Starting with a **Substance**, read across. **Year Sampled** is usually in 2014 or year prior. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **Average Amount Detected** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **No** under **Violation** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

Unregulated substances are measured, but maximum allowed contaminant levels have not been established by the government.

Table Definitions and Abbreviations

Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that 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 disinfectant routinely allowed in drinking water. Addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of 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 contamination.

mrem/year: Millirems per year (a measure of radiation absorbed by the body).

NA: Not applicable.

ND: Not detected.

NTU - Nephelometric Turbidity Units: Measurement of the clarity, or turbidity, of water.

pCi/L (picocuries per liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).


pH: A measurement of acidity, 7.0 being neutral.

Parts per million (ppm) or Milligrams per liter: one part per million corresponds to one minute in two years or a single penny in \$ 10,000.

Parts per billion (ppb) or Micrograms per liter: one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.


Parts per trillion (ppt) or Nanograms per liter: one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

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



There's a lot more to your water bill than just water.

When you turn on the tap, it's easy to see what your water bill buys. What's not as easy to see is what it takes to bring that water to your home. The miles of pipeline hidden below the ground. The facilities that draw water from the source. The plant where it's treated and tested. The scientists, engineers, and maintenance crews working around the clock to make sure that water is always there when you need it. Your water payments are helping to build a better tomorrow by supporting needed improvements that will keep water flowing for all of us—today and well into the future. All for less than a penny a gallon.

 **WE CARE ABOUT WATER. IT'S WHAT WE DO. FIND OUT WHY YOU SHOULD, TOO, at amwater.com.**

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Water Quality Statement

The staff and management of Maryland American Water are pleased to report that the water provided to you during the past year from our Bel Air water facilities met all the State and Federal standards set for drinking water.



Maryland-American Water Company – Bel Air 2014

Regulated Substances (from the treatment facilities)

Substance (units)	Year Sampled ¹	MCL	MCLG	Bel Air Water Treatment Facility		Harford County Water Authority Treatment Facility		Bynum Run Well ²		Violation	Typical Source
				Amount Detected	Range of Detected Levels	Amount Detected	Range of Detected Levels	Amount Detected	Range of Detected Levels		
Radiological Contaminants											
Gross Alpha emitters (pCi/L)	HC ³ :2013 MDAW: 2005	15	0	0.82	NA	2	NA	NA	NA	No	Erosion of natural deposits
Beta emitters (pCi/L) ⁴	HC:2013	50	0	NA	NA	4.3	NA	NA	NA	No	Decay of natural and man-made deposits
Radium (pCi/L)	HC:2013 MDAW: 2006	5	0	0.833	0.138 - 0.833	5.8	NA	NA	NA	No	Erosion of natural deposits
Inorganic Contaminants											
Barium (ppm)	2014	2	2	NA	NA	0.03	0.03 – 0.03	NA	NA	No	Erosion. Drilling waste and metal refineries.
Fluoride (ppm)	2014	4	4	0.72	NA	0.9	0.1 – 0.9	0.90	NA	No	Added to water to promote healthy teeth
Arsenic (ppb)	2014	10	0	NA	NA	0.7	ND – 2.0	NA	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics factories
Nitrate (ppm)	2014	10	10	2.71	NA	4.2	1.0 – 4.2	3.41	NA	No	Erosion of natural deposits; Runoff from fertilizer use
Lead (ppb)	2014	0	15	1	NA	NA	NA	NA	NA	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Organic Contaminants											
Di (2-ethylhexyl)-phthalate (ppb)	2014	6	0	NA	NA	0.5	0.5 – 1.0	NA	NA	No	Discharge from rubber and chemical factories
Atrazine (ppb)	2014	3	3	0.1	NA	0.3	ND - 0.7	NA	NA	No	Runoff from herbicide used on row crops
Trichloroethene (ppb)	2014	0	5	NA	NA	0.1	ND – 0.6	NA	NA	No	Discharge from metal degreasing sites
TOC	2014	TT	NA	NA ⁵	NA	NA	1.1 – 2.9 ⁶	NA ⁵	NA	No	Naturally present in the environment
Turbidity (NTU) ⁷	2014	TT (<1 NTU) 95% of readings ≤0.3 NTU on a monthly basis	NA	0.13	NA	0.285	NA	NA	NA	No	Soil erosion and runoff
Chlorine ⁸	2014	MRDL=4	MRDLG = 4	2.0	0.8 – 3.8	3.7	0.5 - 3.7	0.88	0.4 - 1.7	No	Additive to control microbes

Disinfection By-products (from the Bel Air distribution system)

Substance (units)	Year Sampled	MCL	MCLG	Amount Detected	Range of Detected Levels	Violation	Typical Source
Haloacetic acids (HAAs)	2014	60	NA	48.2	13.4 – 65.1	No	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) ⁹	2014	80	NA	60.4	17.6 – 81.0	No	By-product of drinking water disinfection

Lead and Copper Results: Tap Water Samples from Bel Air Water Distribution System

Substance (units)	Year Sampled	MCL	MCLG	Amount Detected (90th %tile)	Number of Samples Over Action Level	Violation	Typical Source
Copper (ppm)	2014	AL = 1.3	1.3	0.512	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2014	AL = 15	0	2	0	No	Corrosion of household plumbing systems; Erosion of natural deposits



Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at (800) 426-4791.

Bacteriological Results (from the distribution system)

Substance (units)	Year Sampled	MCL	MCLG	Highest Level Detected	Compliance Achieved	Typical Source
Total Coliform (number of positive samples)	2014	0	1 positive monthly sample	1	Yes	Bacteria naturally present in the environment
Chlorine Residual	2014	MRDL = 4	MRDLG = 4	Range: 0.77 - 2.17 Average: 1.5	Yes	Additive used to control microbes

Unregulated Substances (from the treatment facilities)

Substance (units)	Year Sampled	Bel Air Water Treatment Facility		Hartford County Treatment Facility		Bynum Run Well		Typical Source
		Amount Detected	Range of Detected Levels	Amount Detected	Range of Detected Levels	Amount Detected	Range of Detected Levels	
Aluminum (ppm)	2014	0.02	NA	NA	NA	NA	NA	Naturally occurring and water treatment additive
Calcium (ppm)	2014	11	NA	NA	NA	52	NA	Naturally occurring
Magnesium (ppm)	2014	6	NA	NA	NA	21	NA	Naturally occurring
Chloride (ppm)	2014	35.3	NA	NA	NA	105.9	NA	Naturally occurring
Sodium (ppm) ¹⁰	MDAW: 2014	14.3	NA	23.4	4.3 - 63.8	43.1	NA	Erosion of natural deposits; Leaching; Water treatment chemicals
Metolachlor (ppb)	2014	NA	NA	0.10	0.10 - 0.5	NA	NA	Runoff from herbicide used on crops
Hexavalent Chromium (ppb) ¹¹	MDAW: 2011 HC: 2013	NA	NA	1.3	ND - 1.3	0.04	0.03 - 0.04	Erosion of natural deposits; Discharge from steel and pulp mills
MTBE (ppb)	2014	NA	NA	NA	NA	24.3	ND - 24.3	Runoff of gasoline
Nickel (ppb)	2014	NA	NA	1.2	ND - 2.4	NA	NA	Erosion of natural deposits
Radon (pCi/L)	2014	NA	NA	NA	NA	622	NA	Erosion of natural deposits

Other Unregulated Substances (from the Bel Air distribution system)

Substance (units)	Year Sampled	Amount Detected	Range of Detected Levels	Typical Source
Chloroform (ppb)	2014	68.0	13.0 - 68.0	By-product of drinking water disinfection
Trichloroacetic Acid (ppb)	2014	21.8	5.7 - 21.8	By-product of drinking water disinfection
Monochloroacetic Acid (ppb)	2014	3.7	ND - 3.7	By-product of drinking water disinfection
Dichloroacetic Acid (ppb)	2014	28.5	6.0 - 28.5	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2014	2.9	1.1 - 2.9	By-product of drinking water disinfection
Dibromoacetic Acid (ppb)	2014	1.2	ND - 1.2	By-product of drinking water disinfection
Chlorate (ppm)	2014	0.02	ND - 0.02	By-product of drinking water disinfection
Monobromoacetic Acid (ppb)	2014	1.6	ND - 1.6	By-product of drinking water disinfection
Bromodichloromethane Acid (ppb)	2014	13.1	3.5 - 13.1	By-product of drinking water disinfection

¹ Year Sampled: The state requires 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.

² Bynum Well was taken out of service due to levels of MTBE.

³ HC: Harford County Water

⁴ Beta/Photon emitters: The MCL for Beta/photon emitters is written as 4 mrem/year. EPA considers 50 pCi/L as the level of concern for beta emitters.

⁵ TOC: Alternative compliance criteria were met such that required removal of TOC to control reduced formation of chlorinated by-products is not applicable for the MD-AW treatment plant. Organic matter present in the source water can react with the disinfectants used at the treatment facility to form these by-products. TOC is NA for well water.

⁶ TOC: The value reported under "Range of Detected Levels" is the average ratio between the percentage of TOC actually removed and the TOC required to be removed. A value of greater than or equal to 1.0 indicates that the water system is in compliance with TOC removal requirements. TOC is covered by a treatment technique (TT).

⁷ Turbidity: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, a minimum of 99.97% of all samples taken to measure turbidity met water quality standards.

⁸ Chlorine: Amount detected are monthly averages. Also, MRDL (maximum residual disinfectant level) applies.

⁹ Trihalomethanes: 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 system, and may have an increased risk of getting cancer.

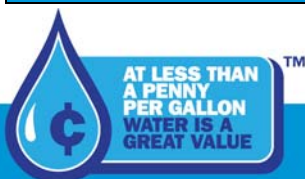
¹⁰ Sodium: The sodium concentration in the sample collected from Bynum Run Well and Harford County in 2014 exceeds the recommended maximum contaminant level guideline of 20 ppm for persons on a "strict" sodium intake diet.

¹¹ Hexavalent Chromium: Is not currently regulated as an individual contaminant. Maryland American Water voluntarily performed this monitoring based on recommendations from USEPA in 2011. For more information on Hexavalent Chromium please visit our website.

¹² Unregulated Contaminant Monitoring Rule 3

Unregulated Substances (from the Bel Air distribution system and treatment facilities) UCMR3¹²

Substance (units)	Year Sampled	Amount Detected	Range of Detected Levels	Typical Source
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Strontium (ppb)	2014	109.3	14.3 - 109.3	Soil runoff
Vanadium (ppb)	2014	0.7	ND - 0.7	Discharge from power plants; erosion of natural deposits
Chlorate (ppb)	2014	890	21 - 890	By product of disinfection
Hexavalent Chromium (ppb)	2014	0.11	0.06 - 0.11	Discharge from steel and pulp mills

