

2008 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 información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Continuing Our Commitment

A Message from Maryland State President

As a trusted leader in the industry, Maryland American Water places a strong emphasis on sharing information about the quality of the water we provide with our customers.

One way we do this is by reporting to you annually the results of our tests on the water we deliver to your home.

Please review this Consumer Confidence Report (CCR), which outlines information applicable to your local water system for testing completed through December, 2008. You'll find that we provide water that surpasses or meets all federal and state water quality regulations. In fact, we often address regulations well before they go into effect.

Just as important, Maryland American Water makes the necessary investments to maintain and upgrade its facilities, so that we can deliver quality water directly to your tap 24 hours a day, seven days a week.

Our customers are our top priority, and we are committed to providing them with the highest quality drinking water and service possible now and in the years to come. In addition to this written report, you can view information about Maryland American Water and your water system on our website <http://www.amwater.com/mdaw/ensuring-water-quality/water-quality-reports.html>. For more information or for any questions about this report relating to your drinking water, please contact Maryland American Water at 1-800-452-6863.

Thank you for being a Maryland American Water customer.

Sincerely,

*William Walsh
STATE PRESIDENT*

What is a Water Quality Report?

To comply with Maryland Department of the Environment (MDE) and the USEPA regulations, Maryland American Water issues a report annually describing the quality of your drinking water. The purpose of this report is to provide you an overview of last year's (2008) drinking water quality. It includes details about where your water comes from and what it contains. We hope the report will raise your understanding of drinking water issues and awareness of the need to protect your drinking water sources.

Water Information Sources

Maryland American Water (MAW) (<http://amwater.com/mdaw/>) provides water service to 4880 customers in the City of Bel Air and parts of Harford County, Maryland. MAW is part of American Water. Founded in 1886, American Water is the largest investor-owned U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs more than 7,000 dedicated professionals who provide drinking water, wastewater and other related services to approximately 15 million people in 32 states and Ontario, Canada. MAW is also part of Maryland – Virginia Water (MAW-VAW) which serves over 60,000 customers in various cities and counties in Virginia and in Maryland.

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:

- **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
- **American Water Works Association**
www.awwa.org
- **Safe Drinking Water Hotline:** (800) 426-4791

How is Your Water Treated?

Current 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, a 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.

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 12 ppm and averaged 27 ppm for Harford County Water.

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

Water in the distribution system averages about 7.3 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 0.5 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.

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. Immunocompromised 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.

Special Monitoring

Monitoring for contaminants in accordance with the Unregulated Contaminant Monitoring Rule (UCMR2) was conducted in 2008. We only found 1.3 parts per billion of Metoalachlor ESA. This is typical a degradation product of alachlor, an herbicide used with corn, bean, peanut, and soybean crops to control grasses and weeds.

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 on the next page. While most monitoring was conducted in 2008, 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 2008 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 **Yes** under **Compliance Achieved** 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.
- **ppm (parts per million):** One part substance per million parts water, or milligrams per liter.
- **ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.
- **ppt (parts per trillion):** One part substance per trillion parts water, or nanograms per liter.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

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.

Bacterial Test Results: Measured from Bel Air Water Distribution System (Maryland American Water Data)								
Substance (units)	Year Sampled	MCL		MCLG	Highest Percentage Detected	Compliance Achieved	Typical Source	
Total Coliforms (% of positive samples)	2008	No more than 5% of the monthly samples can be positive		0%	0	Yes	Naturally present in the environment	
Turbidity: A Measure of the Clarity of Water at Bel Air Water Treatment Facility (Maryland American Water Data)								
Plant	Substance (units)	Year Sampled	MCL	MCLG	Highest Single Measurement	Compliance Achieved	Typical Source	
Bel Air Plant	Turbidity (NTU) ¹	2008	TT	NA	0.13	Yes	Soil runoff	
¹ All turbidity readings were below the treatment technique (TT) requirement of 0.3 (or 0.5) NTU in 95% of all samples taken for compliance on a monthly basis. Treatment technique requirement was met.								
Total Organic Carbon Removal: Measured at Bel Air Water Treatment Facility (Maryland American Water Data)								
Substance (units)	Year Sampled	TT	Range of % Removal Required	Average % Removal Achieved	Compliance Achieved	Typical Source		
Total Organic Carbon (TOC) (% removal) ²	2008	Met USEPA removal requirements	NA ³	NA ³	Yes	Naturally decaying vegetation		
² Alternative compliance criteria were met such that required removal of TOC to control reduce formation of chlorinated by-products is not applicable (NA). Organic matter present in the source water can react with the disinfectants used at the treatment facility to form these by-products.								
Other Regulated Substances: From Samples at Bel Air Water Plant, Well & Distribution System (Maryland American Water Data)								
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low-High	Compliance Achieved	Typical Source	
Disinfectant & Disinfection By-Products								
Chlorine (ppm) ³ Distribution System	2008	4	4	1.0 average 0.8 - 1.4 (low-high)	ND - 2.2	Yes	Disinfectant added in the treatment process	
Chlorine (ppm) ³ at the Treatment Plant	2008	MRDL = 4	MRDLG = 4	1.7 lowest	1.3 - 3.2	Yes	Disinfectant added in the treatment process	
Chlorine (ppm) ³ at the Well	2008	MRDL = 4	MRDLG = 4	0.7 lowest	0.2 - 3.2	Yes	Disinfectant added in the treatment process	
Total Trihalomethanes (THMs) (ppb) ⁴	2008	80	0	36.8	11.5 - 171	Yes	By-product of drinking water chlorination	
Haloacetic Acids (THAA5) (ppb) ⁴	2008	60	0	27.8	2.0 - 67.0	Yes	By-product of drinking water chlorination	
Radioactive Contaminants								
Alpha emitters (pCi/L)	2002	15	0	0.6	NA	Yes	Radioactive decay of natural deposits	
Beta/Photon emitters (pCi/L)	2002	50	0	2.2	NA	Yes	Radioactive decay of natural deposits and man-made sources	
Inorganic Contaminants								
Barium (ppm)	2008	2	2	0.02	0.02 - 0.02	Yes	Discharge of drilling wastes and metal refineries; Erosion of natural deposits	
Fluoride (ppm)	2008	4	4	0.5	0.3 - 1.4	Yes	Water additive which promotes strong teeth	
Nitrate as Nitrogen (ppm)	2008	10	10	2.72	2.55 - 2.88	Yes	Runoff from fertilizer use; Leaching from septic tanks; Treated wastewater, erosion of natural deposits	
¹ Range represents sampling at individual sample points. Also, MRDL (maximum residual disinfectant level) applies.								
² Average is based on the 4 Quarter Annual Average from the 4 distribution compliance sites. The range also includes the test results from 11 additional sample sites collected for development for future compliance testing.								
Lead and Copper Results: Tap Water Samples of Bel Air Water Distribution System (Maryland American Water Data)								
Substance (units)	Year Sampled	Action Level	MCLG	Number of Samples	90th Percentile	Homes Above Action Level	Compliance Achieved	Typical Source
Lead (ppb)	2008	15	0	31	3	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	2008	1.3	1.3	31	0.33	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Bacterial Test Results: Measured from Harford County Water Distribution System, Data from Harford County Water Authority (Purchased Water)								
Substance (units)	Year Sampled	MCL		MCLG	Highest Percentage Detected	Compliance Achieved	Typical Source	
Total Coliforms (% of positive samples)	2008	No more than 5% of the monthly samples can be positive		0%	1.0 %	Yes	Naturally present in the environment	
Turbidity: A Measure of the Clarity of Water at the Harford County Water Authority Treatment Facilities from Abingdon, Havre de Grace, and Perryman Water Treatment Plants (Purchased Water)								
Substance (units)	Year Sampled	MCL	MCLG	Highest Single Measurement	Compliance Achieved	Typical Source		
Turbidity (NTU) ¹	2008	TT	NA	0.29	Yes	Soil runoff - average 0.051 NTU		
¹ All turbidity readings were below the treatment technique (TT) requirement of 0.3 NTU, or 0.5 NTU in 95% of all samples taken for compliance on a monthly basis. Treatment technique requirement was met.								
Total Organic Carbon Removal at Harford County Water Authority Treatment Facilities Abingdon, Havre de Grace, and Perryman Water Treatment Plants (Purchased Water)								
Substance (units)	Year Sampled	TT	Range of % Removal Required	Average % Removal Achieved	Compliance Achieved	Typical Source		
Total Organic Carbon (TOC) (% removal) ²	2008	Met USEPA removal requirements	NA ³	NA ³	Yes	Naturally decaying vegetation		
² Alternative compliance criteria were met such that required removal of TOC to control/reduce formation of chlorinated by-products is not applicable (NA).								
Other Regulated Substances: Measured on Water Leaving Treatment Facility and/or in Distribution System, Data from Harford County Water Authority (Purchased Water)								
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low-High	Compliance Achieved	Typical Source	
Disinfectant & Disinfection By-Products								
Chlorine Residual (ppm) ³ at the Treatment Plant and distribution system	2008	MRDL = 4	MRDLG = 4	2.9 highest	0.4 - 2.9	Yes	Disinfectant added to the water in the treatment process and as measured in distribution system. Average at plants 1.4 mg/L.	
Total Trihalomethanes (THMs) (ppb) ⁴	2007 & 2008	80	0	31	29 - 31	Yes	By-product of drinking water chlorination. Average is 4 quarter running average.	
Haloacetic Acids (THAA5) (ppb) ⁴	2007 & 2008	60	0	43	39 - 43	Yes	By-product of drinking water chlorination. Average is 4 quarter running average.	
Radioactive Contaminants								
Gross Alpha emitters (pCi/L)	2007	15	0	2	2 - 2	Yes	Radioactive decay of natural deposits	
Beta/Photon emitters (pCi/L)	2007	50	0	5	5 - 5	Yes	Radioactive decay of natural deposits and man-made sources	
Radium 226 (pCi/L)	2007	5	0	0.3	0.3 - 0.3	Yes	Radioactive decay of natural deposits	
Radium 228 (pCi/L)	2007	5	0	1	1 - 1	Yes	Radioactive decay of natural deposits	
Inorganic Contaminants								
Antimony (ppb)	2007	6	6	3	3 - 3	Yes	Discharge from petroleum refineries, ceramics, fire retardants, electronics, solder	
Arsenic (ppb)	2008	10	0	0.06	ND - 5	Yes	Erosion of natural deposits; Runoff from orchards; glass and electronic production wastes	
Barium (ppm)	2008	2	2	0.06	0.03 - 0.14	Yes	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Chromium (ppb)	2008	100	100	0.5	ND - 2	Yes	Discharge from steel mills, pulp mills, erosion of natural deposits	
Fluoride (ppm)	2008	4	4	0.9 highest	0.8 - 1.1	Yes	Erosion, water additive, and discharge from fertilizer and aluminum factories	
Nitrate as nitrogen (ppm)	2008	10	10	5.1 highest amount detected	1.2 - 5.1	Yes	Runoff from fertilizer use; Leaching from septic tanks and treated wastewater, Erosion of natural deposits	
Organic Contaminants								
Atrazine (ppb)	2008	3	3	0.1	ND - 0.4	Yes	Runoff from herbicide used on crops	
Dalapon (ppb)	2008	200	200	0.03	ND - 0.1	Yes	Runoff from herbicide used on right of ways	
Di (ethylhexyl) adipate (ppb)	2008	400	400	0.05	ND - 0.2	Yes	Discharge from chemicals factories	
Di (2-ethylhexyl) Phthalate (ppb)	2008	6	0	0.3	ND - 0.9	Yes	Discharge from rubber and chemical factories	
Pentachlorophenol (ppb)	2008	1.0	0	0.02	ND - 0.07	Yes	Discharge from wood preserving factories	
Trichloroethene (ppb)	2008	5	0	0.2	ND - 1.4	Yes	Discharge from metal degreasing sites & factories	
Xylenes, total (ppb)	2008	10	10	0.05	ND - 0.7	Yes	Discharge from petroleum and chemical factories	
¹ Range represents sampling at individual sample points. Also, MRDL (maximum residual disinfectant level) applies.								
² Range represents sampling at individual sample points.								
Unregulated Substances: From Samples at Bel Air Water Plant, Well & Distribution System (Maryland American Water Data)								
Substance (units)	Year Sampled	Average Amount Detected	Range Low-High	Typical Source				
Metolachlor ESA (ppb)	2008	1.3	1.3 - 1.3	Degradation product of alachlor, an herbicide used with corn, bean, peanut, and soybean crops to control grasses and weeds				
Bromodichloromethane (ppb)	2008	10.5	3.3 - 21.3	By-product of drinking water chlorination				
Chloroform (ppb)	2008	44.6	6.8 - 145.1	Industrial discharge; Landfills; By-product of water chlorination				
Chlorodibromomethane (ppb)	2008	2.6	0.7 - 4.6	By-product of drinking water chlorination				
Unregulated Substances: Measured on the Water Leaving Harford County Water Authority Treatment Facilities (Purchased Water)								
Substance (units)	Year Sampled	Average Level Detected	Range Low-High	Typical Source				
Aldicarb (ppb)	2008	0.09	ND - 25	Used as an insecticide on a wide variety of crops				
Bromodichloromethane (ppb)	2007	2.9	ND - 13.8	By-product of drinking water chlorination				
Chloroform (ppb)	2007	14	ND - 40	Industrial discharges; Landfills; By-product of water chlorination				
Dibromochloromethane (ppb)	2007	0.5	ND - 3.0	By-product of drinking water chlorination				
Metolachlor (ppb)	2008	0.04	ND - 0.2	Herbicide release occurs during manufacture and use in the field				
N-Nitroso-methylethylamine (ppm)	2008	3.9	2.9 - 5.6	By-product of water treatment				
Perchlorate (ppb)	2008	0.01	ND - 0.2	Production of matches, flares, rockets, and explosives				
Sodium (ppm)	2008	27	14 - 64	Erosion of natural deposits, leaching; Water treatment chemicals				