

2008 Annual Water Quality Report



Hopewell District

PWS ID: VA3670800

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Where Does My Water Come From?

Virginia American Water, Hopewell District customers enjoy an abundant water supply from two major surface waters in Virginia. The water is withdrawn from the Appomattox River, at the confluence with the James River. The combined drainage area of these two watersheds is approximately 9,000 square miles, where the rivers meet at Hopewell. To learn more about our watershed on the Internet, go to U.S. EPA's Search Your Watershed at www.epa.gov/safewater.

What is a Source Water Assessment?

The Source Water Assessment Program 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 first step of a Source Water Protection Program is the preparation of a source water assessment report. This report was prepared by the Virginia Department of Health and became available in the year 2002. The following paragraph is required to be included in the CCR:

"The Virginia Department of Health conducted a Source Water Assessment of the Appomattox and James Rivers in 2001. The rivers were determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities and Potential Sources of Contamination of Concern, Best Management Practices Utilized at Land Use Activity Sites in Zone 1, documentation of any known contamination within the last five years, Susceptibility Explanation Chart, and Definitions of Key Terms. The report is available by contacting your waterworks system owner at the telephone number or address included in the CCR."

Share This Report

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

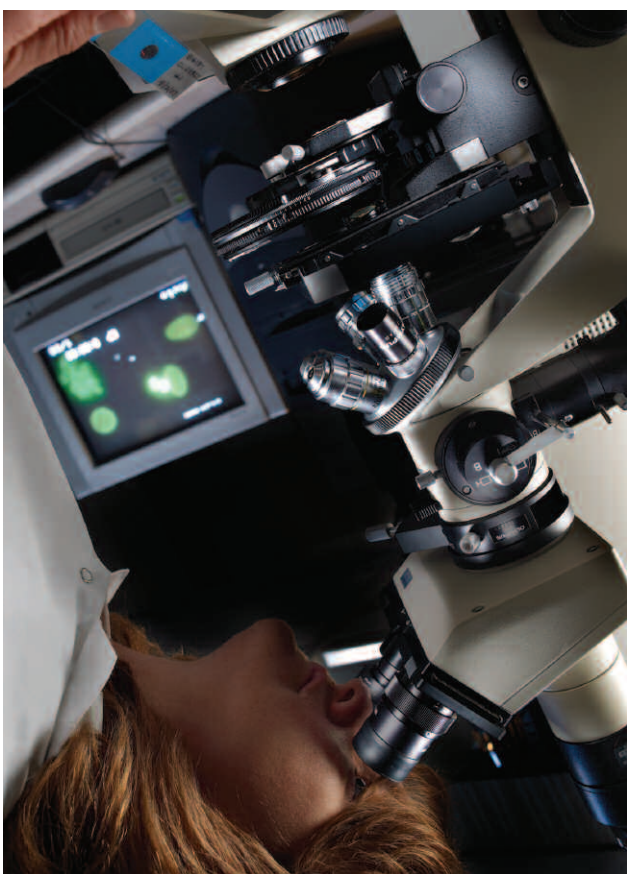
Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the US. Although Cryptosporidium can be removed through commonly-used filtration methods, US EPA issued a new rule in January 2006 that requires systems with higher Cryptosporidium levels in their source water to provide additional treatment. In anticipation of this upcoming rule, Virginia American Water monitored for Cryptosporidium in its raw water in 2005. In 24 monthly samples collected between July 2003 and June 2005, no viable Cryptosporidium cysts were detected.

Lead Education Statement

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. Virginia American Water is responsible for providing high quality drinking water, but cannot control susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities and Potential Sources of Contamination of Concern, Best Management Practices Utilized at Land Use Activity Sites in Zone 1, documentation of any known contamination within the last five years, Susceptibility Explanation Chart, and Definitions of Key Terms. The report is available by contacting your waterworks system owner at the telephone number or address included in the CCR."

Printed on recycled paper. Each ton of recycled paper saves 7,000 gallons of water.



Unregulated Contaminant Monitoring

Definition: Unregulated contaminants are those for which the U.S. Environmental Protection Agency has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether regulation is warranted.

Information on the Internet

Virginia American Water is a subsidiary of American Water which was founded in 1886. It is the largest investor-owned US water and wastewater utility company. With headquarters in Voorhees, NJ, American Water employs approximately 7,000 dedicated professionals who provide high quality water, wastewater and other related services to approximately 15 million people in 32 states and Canada. More information can be found by visiting www.amwater.com

The U.S. EPA Office of Water (www.epa.gov/safewater) and the Centers for Disease Control and Prevention (www.cdc.gov) web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the Virginia Department of Health and the Virginia Department of Environmental Quality have web sites that provide complete and current information on water issues in Virginia. These web sites are located at (www.vdh.virginia.gov) and (www.deq.state.va.us).

All these web sites have numerous links that will direct you to other professional organizations, public education and public health topics related to water.

What Is a Water Quality Report?

To comply with Virginia Department of Health and U.S. Environmental Protection Agency (EPA) regulations, Virginia 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.

VIRGINIA AMERICAN WATER
 900 Industrial Street
 P.O. Box 60
 Hopewell, Virginia 23860

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. 1-(800) 383-0834

For more information about this report, or for any questions relating to your drinking water, please call our customer service center at 1-(800) 383-0834.

A Message from Virginia American Water's President

As a trusted leader in the industry, Virginia 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.

Just as important, Virginia 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 Virginia American Water and your water system on our website <http://www.amwater.com>. For more information about this report, or for any questions relating to your drinking water, please feel free to call our Customer Service Department at (800) 452-6863, where you will be placed in contact with a water quality professional.

Sincerely,

William Walsh

Water Information Sources

Special Health Information
 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 may 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 microbial contaminants are available from the EPA's Safe Drinking Water Hotline (800) 426-4791.

- Virginia Department of Health www.vdh.virginia.gov
- United States Environmental Protection Agency www.epa.gov/safewater
- Safe Drinking Water Hotline: (800) 426-4791
- Centers for Disease Control and Prevention www.cdc.gov
- American Water Works Association www.awwa.org
- National Library of Medicine/
National Institute of Health www.nlm.nih.gov/medlineplus

Water Quality Statement

For your information, we have compiled a list in the table, showing what substances were detected in your drinking water during 2008. We feel it is important that you know exactly what was detected and how much of the substance was present in the water.

Monitoring was also done during 2008 under the U.S. Environmental Protection Agency (EPA) Unregulated Contaminant Monitoring Rule 2 (UCMR2). Any compounds that were detected are listed in the tables below. For information concerning our results, please contact our Water Quality Supervisor, Brenda Frye, at (804) 458-6821. Data is also available on the EPA's web site (www.epa.gov/safewater/ucmr/data.html).

Your Drinking Water Quality

Regulated Substances (Measured on the Water Leaving the Treatment Facility)							
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Alpha emitters (pCi/L)	2003	15	0	0.6	NA	Yes	Erosion of natural deposits
Barium (ppm)	2008	2	2	0.022	NA	Yes	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta/photon emitters (pCi/L)	2003	50	0	4.2	NA	Yes	Decay of natural and man-made deposits
Chloramines (ppm)	2008	MRDL=4	MRDLG=4	3.24	1.5 - 4.2	Yes	Additive used to control microbes
Chloride (ppm)	2008	250	NA	6.2	NA	Yes	Naturally occurring
Fluoride (ppm)	2008	4	2	0.8	NA	Yes	Discharge from fertilizer and aluminum factories; erosion of natural deposits; additive to promote strong teeth
Nickel (ppb)	2008	100	NA	0.9	NA	Yes	Naturally occurring
Nitrate (ppm)	2008	10	10	0.36	0.36 - 0.36	Yes	Run off from fertilizer use; leaching from septic tanks/sewer; erosion of natural deposits
Radium 226/228 (pCi/L)	2003	5	0	1.1	NA	Yes	Erosion of natural deposits
Sulfate (ppm)	2008	250	NA	33.7	NA	Yes	Naturally occurring
Total Organic Carbon (removal ratio)	2008	TT	NA	1.38	0.87 - 1.84	Yes	Naturally present in the environment (removal ratio should be > 1.00)
Turbidity (NTU)	2008	TT	NA	0.052	0.03 - 2.10	No	Soil runoff
Zinc (ppm)	2008	5.0	NA	0.211	NA	Yes	Naturally occurring and water treatment additive

Regulated Substances (from the Distribution System)							
Substance (units)	Year Sampled	MCL	MCLG	Average Amount Detected	Range Low - High	Compliance Achieved	Typical Source
Haloacetic Acids (HAA5s) (ppb)	2008	60	NA	14.63	7.7 - 18.8	Yes	By-product of drinking water disinfection
TTHMs (Total Trihalomethanes) (ppb)	2008	80	0	46.0	10.9 - 57.7	Yes	By-product of drinking water disinfection

Bacteriological Results (from the Distribution System)						
Substance (units)	Year Sampled	MCLG	MCL	Highest Percentage Detected	Compliance Achieved	Typical Source
Total Coliform (% positive samples)	2008	0	5% positive samples	0	Yes	Bacteria naturally present in the environment

Footnote for 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 100% of all samples taken to measure turbidity met water quality standards.
 Special Footnote for Year Sampled — The state requires us to monitor 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.
 Special Footnote for 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.
 Special Footnote for 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.

Unregulated Substances (Measured on the Water Leaving the Treatment Facility)				
Substance (units)	Year Sampled	Results	Range Low - High	Typical Source
Calcium (ppm)	2008	6	NA	Naturally occurring
Magnesium (ppm)	2008	2	NA	Naturally occurring
Manganese (ppm)	2008	0.032	NA	Naturally occurring and water treatment additive
Sodium (ppm)	2008	49	41 - 57	Naturally occurring and water treatment additive

Unregulated Substances (From the Distribution System)				
Substance (units)	Year Sampled	Results	Range Low - High	Typical Source
Bromochloro-acetic acid (ppb)	2008	3.4	1.4 - 5.3	By-product of drinking water disinfection
Bromide (ppm)	2008	0.03	ND - 0.04	By-product of drinking water disinfection
Bromoform (ppb)	2008	0.87	ND - 1.0	By-product of drinking water disinfection
Bromodichloromethane (ppb)	2008	11.15	3.5 - 15.8	By-product of drinking water disinfection
Chlorate (ppm)	2008	0.03	ND - 0.04	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2008	4.9	1.4 - 8.6	By-product of drinking water disinfection
Chloroform (ppb)	2008	18.7	6.0 - 42.8	By-product of drinking water disinfection
Dibromoacetic acid (ppb)	2008	0.9	ND - 2.0	By-product of drinking water disinfection
Dichloroacetic acid (ppb)	2008	6.8	2.8 - 11.2	By-product of drinking water disinfection
Monochloro-acetic acid (ppb)	2008	2.0	1.3 - 3.1	By-product of drinking water disinfection
Trichloroacetic acid (ppb)	2008	4.9	2.6 - 6.8	By-product of drinking water disinfection

Tap Water Samples: Lead and Copper Results								
Substance (units)	Year Sampled	Action Level	MCLG	Results	Number of Samples	90th Percentile	Number of Samples Above Action Level	Typical Source
Copper (ppm)	2007	1.3	1.3	ND-0.090	30	0.063	0	Household plumbing
Lead (ppb)	2007	15	0	ND	30	<1	0	Household plumbing

How to Read the Data Tables

Virginia American Water conducts extensive monitoring. The results of our monitoring are reported in the following tables. While most monitoring was conducted in 2008, certain substances are only monitored once every three to nine years because the levels do not change frequently. For help with interpreting this table, see the "Table Definitions" section.

Starting with a **Substance**, read across. **Year Sampled** is usually in 2008 but may be a prior year. **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.

Table Definitions and Abbreviations

- Action Level:** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which 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. There is convincing evidence that 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.
- 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).
- 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.
- TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

Substances Expected to be in Drinking Water

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 water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline (800) 426-4791.

The sources 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.

DRINKING WATER NOTICE

Treatment technique requirements not met for Virginia American Water—Hopewell District

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health. We violated a drinking water treatment technique. On April 23, 2008, the water leaving our filters exceeded 1 NTU, peaking at 2.08 NTU. This violation required public notification, advising customers to boil water, within 24 hours of learning of the violation. This notification was provided to local newspapers, television stations, and radio stations, and, to our customers, by use of a Reverse 911.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. According to the Waterworks Regulations, we are required to continuously monitor the individual turbidity levels of water leaving each filter in our treatment plant and filtered water may not exceed 1 NTU. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for bacterial growth. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. People with severely compromised immune systems, infants, and some elderly may be at increased risk. These people should seek advice about drinking water from their health care providers.

What This Means: There is nothing you need to do at this time.

What Happened: Due to the unusually high volume of rain over the course of several days just prior to the violation, and challenges in the treatment process arising from equipment malfunctions, Virginia American Water did not meet the standard for water leaving the filters.

Steps We Are Taking: We corrected the equipment malfunctions and made adjustments to our treatment process to reduce turbidity levels leaving the filters. We also collected and analyzed additional water quality samples during April to confirm the safety of your drinking water.

Reporting requirements not met for Virginia American Water—Hopewell District

We violated a drinking water reporting standard. Even though this was not an emergency, as our customers, you have a right to know what happened and what we are doing to correct this situation.

We are required to file reports about the treatment and quality of your drinking water on a monthly basis. According to the Waterworks Regulations, the reports for any month must be received by the Virginia Department of Health (VDH) no later than the 10th of the following month. The reports for July, 2008 were not received by VDH until August 29, 2008.

What This Means: There is nothing you need to do at this time. All required monitoring was performed and all water quality standards were met in July 2008.

Steps We Are Taking: We will increase our efforts to ensure that future reports are filed within the timeframes established by state and federal drinking water regulations. In addition to printed and signed reports, all reports are now also being filed electronically.

For more information, please contact Brenda Frye, Water Quality Supervisor at (804) 458-6821, ext. 1214.

Please share this information with all other people who drink this water, especially those who may not receive this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

