

CONTINUING OUR COMMITMENT

Once again we proudly present Goochland County's Annual Water Quality Report for the Courthouse System. This report is designed to inform you about the quality water and services we deliver to you every day, and covers the calendar year of 2009. Our constant goal is to provide you with a safe and dependable supply of drinking water, and we are pleased to inform you that our compliance with state and federal drinking water laws remains exemplary. We want you to understand the efforts we make to continually improve the provision of water and protect our water resources. We are committed to ensuring the quality of your water and meeting state and federal requirements administered by the Virginia Department of Health (VDH).

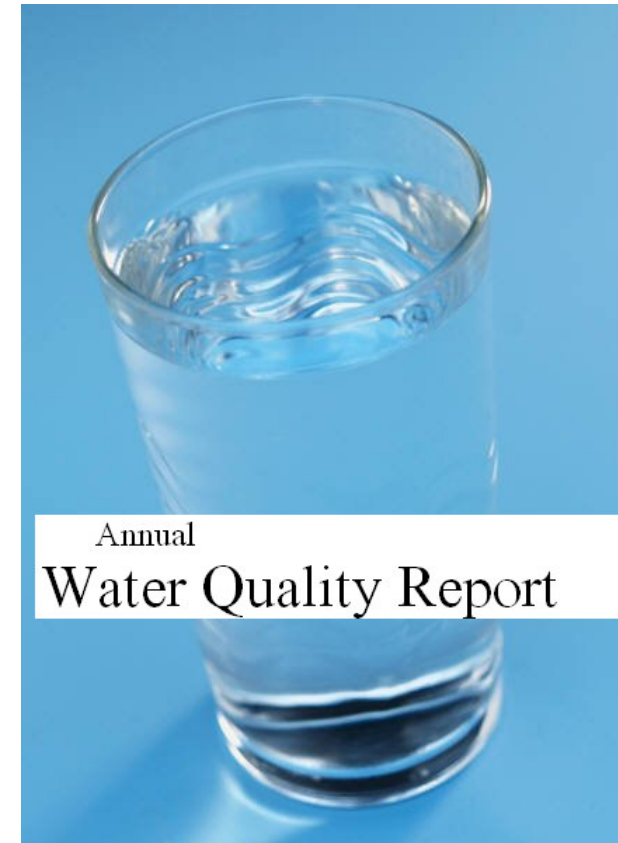
MCLs are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards, EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

If you have any questions about this report or concerning your water utility, please contact Mr. Matt Saccone at (804) 556-5835.

WHERE DOES MY WATER COME FROM?

Our primary water source for the Courthouse System is surface water from the James River treated by conventional flocculation, sedimentation and filtration processes. Goochland County purchases this water from the Department of Corrections.

P.O. Box 119
Goochland, VA 23063



Goochland County – Courthouse System

June 2010

Proudly Presented By:
Goochland County Public Utilities
PWS ID#: VA 4075280

WATER QUALITY AND WHAT IT MEANS

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. During the past year, we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water during between January 1st and December 31st 2009. Although all of the substances listed here are below the applicable Maximum Contaminant Level (MCL) set forth by the U.S. EPA, we believe that it is important that you know exactly what was detected and how much of the substance was present in the water.

Water Clarity						
Contaminant	Sample Date	Level Detected	MCL	MCLG	Violation	Typical Source
Turbidity ¹	March 2009	0.23 NTU	TT = 5 NTU max	N/A	No	Soil Runoff
	January – December 2009	100%	TT = <0.5 NTUs 95% of the time	N/A	No	

Microbiological Contaminants						
Contaminant	Sample Year	No. of samples indicating the presence of bacteria	MCLG	MCL	Violation	Typical Source
Total Coliform Bacteria	2009	0	1	Presence in more than 1 sample each month	No	Naturally present in the environment
Fecal Coliform and E. coli	2009	0	1	See note ²	No	Human and animal fecal waste

Inorganic Contaminants								
Contaminant	Sample Date	Level Detected	Unit Measurement	Range Low-High	MCLG	MCL	Violation	Typical Source
Fluoride	2009	1.00	ppm	0.44-1.5	4	4	No	Drinking water additive to promote strong teeth
Nitrite (as Nitrogen)	July 2009	0.22	ppm	NA	10	10	No	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.

Radionuclides							
Contaminant	Sample Date	Level Detected	Unit Measurement	MCLG	MCL	Violation	Comment
Gross Alpha Emitters	July 2006	0.4	pCi/L	0	15	No	Erosion of natural deposits
Gross Beta Emitters	July 2006	2.9	pCi/L ³	0	50	No	Decay of natural and man-made deposits
Combined Radium	July 2006	0.4	PCi/L	0	5	No	Erosion of natural deposits

Lead and Copper Contaminants								
Contaminant	Sample Date	90 th Percentile Value	Unit Measurement	MCLG	MCL	Violation	Sites Exceeding Action Level	Typical Source
Lead	August 2008	<2	ppb	15	AL = 15	No	0	Corrosion of household plumbing systems
Copper	August 2008	0.122	ppm	1.3	AL = 1.3	No	0	Corrosion of household plumbing systems

Disinfection Byproduct Precursors and Disinfection Byproducts								
Contaminant	Sample Date	Level Detected	Unit Measurement	Range Low-High	MCLG	MCL	Violation	Typical Source
Total Organic Carbon Removal ⁴	Jan-Dec 2009	1.28	N/A - ratio	0.82-1.58	TT	1.0 (min)	No	Naturally occurring organic matter
TTHM (Total Trihalomethanes)	Mar, Jun, Sep, Dec 2009	0.054	ppm	0.024-0.077	0.080	0.080	No	By-product of naturally occurring organic matter and chlorine added to the water
HAAs (Haloacetic Acids)	Mar, Jun, Sep, Dec 2009	0.033	ppm	0.026-0.046	0.060	0.060	No	By-product of naturally occurring organic matter and chlorine added to the water

Disinfectants								
Contaminant	Sample Year	Level Detected (Annual Average)	Unit Measurement	Range Low-High	MRDLG	MRDL	Violation	Typical Source
Chlorine	2009	1.59	ppm	0.16-2.92	N/A	N/A	No	Water additive used to control microbes

Unregulated Contaminants							
Contaminant	Sample Date	Level Detected	Unit Measurement	MCLG	MCL	Violation	Typical Source
Sodium ⁵	July 2009	18.9	ppm	-	-	No	Naturally occurring in water
Sulfate	July 2009	36.2	ppm	250 ⁶	-	No	Naturally occurring in water

¹Turbidity is a measure of the cloudiness of the water. The James River Correctional Center water treatment plant monitors turbidity because it is a good indicator of the effectiveness of the filtration system at the plant.

²A routine sample and a repeat sample are total coliform positive and one is fecal or E. coli positive.

³The MCL for beta/photon emitters is written as 4 mrem/year. The U.S. EPA considers 50 pCi/L as the level of concern for beta emitters.

⁴Amount Detected is the lowest quarterly running average removal ratio. "Range" is the minimum and maximum of all samples used to calculate those averages (a value greater than one indicates that the system is in compliance with TOC removal requirements).

⁵There is no established standard for sodium in drinking water. However, the State Health Department recommends a diet of less than 20 mg/L of sodium in drinking water. Individuals on a sodium-restricted diet should consult medical personnel for more information.

⁶The MCLG for sulfate of 250ppm is based on aesthetic considerations (i.e. taste and odor). According to the EPA, about 3% of the public drinking water systems in the U.S. may have sulfate levels greater than 250ppm.

YOUR WATER SYSTEM DID NOT HAVE ANY VIOLATIONS DURING THE YEAR.

DEFINITIONS

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 - The "Maximum Allowed" (MCL) is 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 Contaminant Level Goal - The "Goal" (MCLG) is 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.

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

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

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

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

Running Annual Average (RAA) - the average of results for 12 consecutive months (calculated at the end of each quarter).

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

Variations and exemptions - state or EPA permission not to meet an MCL of a treatment technique under certain conditions.

Maximum Contaminant Levels (MCLs) are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected in the rate structure. Thank you for your understanding.

We work around the clock to provide top quality water to everyone in Goochland County, Virginia. We ask that all our customers help us protect our water sources and systems, which are the heart of our community, our way of life and our children's future.

IMPORTANT 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 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).

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The County of Goochland is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 15 to 30 seconds or until it becomes cold or reaches a steady temperature before using water for drinking or cooking. If you are concerned about lead in your 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 Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>



SUBSTANCES THAT MIGHT BE IN DRINKING WATER

To ensure that tap water is safe to drink, U.S. EPA regulations limit the amount of certain contaminants 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. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants – their presence does not necessarily indicate that the water poses a health risk. More information can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic Contaminants, such as salts and metals, which can be naturally-occurring or 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 byproducts of industrial processes and petroleum production. Organic chemical contaminants can also come from gas stations, urban stormwater runoff, and septic systems.

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

The Virginia Department of Health (VDH) conducted a source water assessment of our water system during 2001. Using criteria developed by the State in its EPA-approved Source Water Assessment Program, it was determined that on a relative basis, the James River was determined to be highly susceptible to contamination. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern and documentation of any known contamination within the last 5 years from the date of the assessment. A copy of the source water assessment report is available by contacting Randall L. Morrisette at the State Health Department at (804) 674-2880, Ext. 110.