

# 2010 Annual Drinking Water Quality Report

## Town of Rocky Mount

### INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2010 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

If you have questions about this report, or if you want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact: Rocky Mount Water Department, Bob Deitrich, Water Plant Superintendent, 540-483-5747. email address: [bdeitrich@rockymountva.org](mailto:bdeitrich@rockymountva.org). Regularly scheduled board meetings: 2<sup>nd</sup> Monday of each month at 7:00 P.M. Allen O. Woody Jr. Municipal Building

### GENERAL INFORMATION

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or from human activity. Contaminants in source water may be naturally occurring substances, or may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban stormwater runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable while groundwater may or may not have any treatment.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water and 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. 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, and 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.

All drinking water, including bottled drinking 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

### VULNERABLE POPULATIONS

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).

### SOURCE(S) AND TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is the Blackwater River. Water from the river is clarified and disinfected through a multistage process. Poly-aluminum chloride and soda ash are mixed with the river water to cause microscopic particles to settle out. Water that has been through the settling process is then filtered, chlorinated and pH adjusted. Poly-phosphate is added to protect pipes from corrosion and fluoride is added at a recommended level to promote healthy teeth.

## WATER QUALITY RESULTS

We routinely monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

Inorganic Contaminants						
<i>Contaminant / Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found / Range</i>	<i>Violation</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
Nitrate (ppm)	10	10	1.07	No	Jan 2010	Runoff from fertilizer use; Leaching from septic tanks, agricultural runoff
Fluoride (ppm)	4	4	Highest: 1.21 Range: ND to 1.21	No	Daily	Water additive which promotes strong teeth
Barium (ppm)	2	2	0.02	No	Jan 2010	Erosion of natural deposits
Turbidity (NTU)	TT= 0.3	TT <95% = 0.3	Highest 0.16 Range 0.03 – 0.16	No	Daily	Soil Runoff - Turbidity is a measure of water cloudiness and an indicator of filter effectiveness
Lead and Copper						
<i>Contaminant / Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found / Range</i>	<i>Exceeded</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
Lead - (ppb)	0	AL=15	7 (90 <sup>th</sup> percentile) Range: N/D to 26 One sample exceeded the AL.	No	July 2008	Corrosion of household plumbing systems
Copper - (ppm)	1.3	AL=1.3	0.15 (90 <sup>th</sup> percentile) Range:ND to 0.26	No	July 2008	Corrosion of household plumbing systems
Microbiological Contaminants						
<i>Contaminant / Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found</i>	<i>Violation</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
Total Coliform Bacteria	0	1 positive monthly	<b>No Detection</b>	No	Tested Monthly	Naturally present in the environment
Disinfection Byproducts						
<i>Contaminant / Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found / Range</i>	<i>Violation</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
HAA5s (Total Haloacetic Acids) ppb	N/A	60 (Ave)	Ave: 47 Range: 28 to 60	No	11/10/10	By-product of drinking water disinfection
TTHMs (Total Trihalomethanes) ppb	N/A	80 (Ave)	Ave: 71 Range: 22 to 145	No	08/10/10	By-product of drinking water disinfection
Chlorine (ppm)	MRDL G=4	MRDL = 4	Highest: 3.7 Range 0.7 to 3.7 mg/L	No	Tested Monthly	Water additive used to control microbes
Total Organic Carbon (ppm)	TT	TT	0.36 – 1.2	No	Tested Monthly	TOC contributes to the formation of DBPs and are naturally present in the environment
Radiological Contaminants						
<i>Contaminant / Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found / Range</i>	<i>Violation</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
Combined Radium	0	5 pCi/l	1.1 pCi/l	No	April 2003	Erosion of natural deposits
Gross Alpha	0	15 pCi/l	0.4 pCi/l	No	April 2003	Erosion of natural deposits
Unregulated Contaminants						
<i>Contaminant / Unit of Measurement</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found / Range</i>	<i>Violation</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
Sodium	N/A	N/A	14.2	No	Jan 2010	Sodium Carbonate added to water for pH adjustment.
Cryptosporidium	N/A	N/A	3 (untreated river water)	No	March 2010	Naturally present in the environment

Most of the results in the table are from testing done in 2010. However, the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our results, while being the most recent, are more than one year old. SOCs, Radiological and Lead/Copper are all due to be collected in 2011. 2011 results will be reported in June of 2012.

The U.S. Environmental Protection Agency sets MCLs at very stringent levels. 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-one-million chance of having the described health effect for other contaminants.

## **ADDITIONAL TESTING INFORMATION**

The Rocky Mount Water Department monitors for other contaminants not included in the table above. Non-detects are not required to be reported in the table above but we believe that you would be interested to know what was not detected in your drinking water. The following is a partial list of contaminants that were tested for but not detected in your drinking water: cyanide, various pesticides and herbicides, volatile organic chemicals used in gasoline and other solvents, E. Coli, mercury, arsenic, chromium, nickel.

## **ADDITIONAL HEALTH INFORMATION**

Certain contaminants (such as Cryptosporidium, radon, arsenic, nitrate, and lead), if present in your drinking water, may be of special concern to consumers. If any of those contaminants are present, health information is provided below to inform you about them.

## **ADDITIONAL INFORMATION FOR LEAD**

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 Town of Rocky Mount 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 30 seconds to 2 minutes 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>.

## **ADDITIONAL INFORMATION ABOUT CRYPTOSPORIDIUM**

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants, small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

**VIOLATION INFORMATION:** No violation notices were issued to the Town in 2010

## **DEFINITIONS**

The following definitions are provided to help you better understand the terms used in the table on page 2.

- Non-detects (ND) - lab analysis indicates that the contaminant is not detectable, based on the limits of the analytical equipment.
- Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one penny in \$10,000.
- Parts per billion (ppb) or Micrograms per liter ( $\mu$ g/l)- one part per billion corresponds to one penny in \$10,000,000.
- Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.
- Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT) - a required process intended to reduce the level of a contaminant in drinking water.
- Maximum Contaminant Level Goal (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 (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.
- Primary Maximum Contaminant Level (PMCL) - the highest level of a contaminant that is allowed in drinking water based on health considerations. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Secondary Maximum Contaminant Level (SMCL) - the highest level of a contaminant that is allowed in drinking water based on aesthetic considerations.
- Maximum Residual Disinfection Level Goal or MRDLG-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 contaminants.
- Maximum Residual Disinfectant Level of MRDL-the highest level of a disinfectant allowed in drinking water. There is convincing evidence that additional of a disinfectant is necessary for control of microbial contaminants.