

# Annual Drinking Water Quality Report

TOWN OF BOYDTON

PWSID NO. 5117100

## INTRODUCTION

This Annual Drinking Water Quality Report for calendar year ( 2016 ) 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 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:

R. H. Park III, Operator at 434-738-6021

The times and location of regularly scheduled board meetings are as follows:

Second Tuesday of each month at 7:30 PM

## GENERAL INFORMATION

The sources of drinking water (both tap water 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:

(1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. (4) 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 storm water runoff, and septic systems. (5) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. 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.

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).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune 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).

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 Boydton 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 drinking water, you may wish to have your water tested. Information on lead in drinking water, test methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at <http://epa.gov/safewater/lead>.

## SOURCE OF YOUR DRINKING WATER

The source of your drinking water is surface water as described below.

The raw water intake is located on Lake Gaston on the Roanoke River. Treatment of the raw water by the Roanoke River Service Authority consists of chemical addition, coagulation, flocculation, settling (superpulsator), filtration, fluoridation, and chlorination. All of these processes work together to remove the physical, chemical, and biological contaminants to make water safe for drinking.

A Source Water Assessment of our system has been conducted by the Virginia Department of Health. The lake/river was determined to be of high susceptibility to contamination using the criteria developed by the state in its approved Water Assessment Program. 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. Additional information is available by contacting, Paul C. Malone, Plant Superintendent of Water Treatment at: (434-689-7772) Roanoke River Service Authority.

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## DEFINITIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The tables on the next two pages shows the results of our monitoring for calendar year ( 2016 ). In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. The following definitions are provided to help you better understand these terms:

*Non-detects (ND)* - lab analysis indicates that the contaminant is not present within the detection limits of the instrument used

*Parts per million (ppm) or Milligrams per liter (m/l)* - one part per million corresponds to one minute in two years or one 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 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 is a measure of the cloudiness of the water. Turbidity in excess of 5.0 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, or 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 or PMCL* - 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 Residual Disinfectant 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 or MRDL* – the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Abbreviations: N/A- (Not Applicable)                      < - (Less Than)

*Level 1 assessment* - A Level 1 assessment is a study of the waterworks to identify potential problems and determine, if possible, why total coliform bacteria have been found in our waterworks.

*Level 2 assessment* - A Level 2 assessment is a very detailed study of the waterworks to identify potential problems and determine, if possible, why an *E. coli* PMCL violation has occurred and why total coliform bacteria have been found in our waterworks on multiple occasions.

## DISINFECTION BYPRODUCTS (SAMPLED BY TOWN OF BOYDTON)

Contaminant	MCLG	MCL	Max. 4 Qtr. Ave. Range	Violation	Date of sample	Typical Source of Contamination
HAA's -Total Haloacetic Acids (ppb)	N/A	60	29 Range: 16 to 42	No*	Quarterly	By-product of drinking water disinfection
TTHMs -Total Trihalomethanes (ppb)	N/A	80	57 Range: 47 to 61	No*	Quarterly	By-product of drinking water disinfection

COMPLIANCE WILL BE BASED ON AVERAGE OF 4 QUARTERS

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## REGULATED CONTAMINANTS (SAMPLED BY TOWN OF BOYDTON)

Contaminant	MCLG	MCL	Level Found Range	Violation	Date of sample	Typical Source of Contamination
Copper (ppm)	1.3	AL=1.3	0.054 <0.2 to 0.062	No	8-2014	Corrosion of plumbing or pipes
Lead (ppb)	15	AL=15	<2 <2 to <2	No	8-2014	Corrosion of plumbing or pipes
Chlorine (ppm)	4	4	Highest 1.95 Range 0.55-1.95	No	Monthly	Water additive used to Control microbes

None of the lead or copper samples exceeded either action level (AL)

## MICROBIOLOGICAL CONTAMINANTS (SAMPLED BY TOWN OF BOYDTON) (1/1/2016 – 3/31/2016)

Contaminant	MCLG	MCL	# of samples indicating present of bacteria	Violation	Date of sample	Typical Source of Contamination
Total Coliform Bacteria	0	1 positive monthly sample	0	No	Monthly	Naturally present in the environment

## MICROBIOLOGICAL CONTAMINANTS (SAMPLED BY TOWN OF BOYDTON) (4/1/2016 – 12/31/2016)

Contaminant	MCLG	MCL PCLM	# of samples indicating present of bacteria	Violation	Date of sample	Typical Source of Contamination
Total Coliform Bacteria	0	1 positive monthly sample	0	No	Monthly	Naturally present in the environment
E. – coli	0	* See footnote #4	0	No	Monthly	Human and animal Fecal waste

## REGULATED CONTAMINANTS (Roanoke River Service Authority Analysis)

Contaminant	MCLG	MCL	Level	Range	Violation	Date of Sample	Typical Source of Contaminations
Turbidity % less than 0.50 (NTU) * See footnote #1	N/A	TT=1NTU MAX * See footnote#3	0.10	0.05 - 0.10	No	Continuously at plant	Soil Runoff
Fluoride (ppm)	4	4	Avg.=0.67	0.16 - 0.89	No	Tested daily	Water additive which Promotes strong teeth
Gross Alpha (pCi/l)	0	15	<0.5	N/A	No	2-06-13	Erosion of Natural Deposits
Total Organic Carbon (TOC) * See footnote #2	N/A	TT <1.0	1.91	1.83-1.98	No	Monthly	Naturally present in the environment
Combined Radium (pCi/l)	0	5	<0.6	N/A	No	2-07-13	Naturally present in the environment
Nitrate (ppm)	10	10	0.24	N/A	No	Annually	Runoff from fertilizer, septic tanks leaching, erosion of natural deposits
Barium (ppm)	2	2	0.025	N/A	No	Annually	Erosion of Natural Deposits

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\*footnote # 1: *Turbidity* is a measure of the cloudiness of the water and is used because it is a good indicator of how well the filtration system is functioning at the Water Treatment Plant. Turbidity sample results were taken at the Water Treatment Plant.

\*footnote #2: Total organic carbon (TOC) has no health effect. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous systems effects, and may lead to an increased risk of getting cancer.

\*footnote #3: TT = at least 95% of the monthly samples <0.3 NTU

\* footnote #4: PMCL = a routine sample or a repeat sample are total coliform positive, and one is also E. coli positive or any missing repeat sample.

We regularly 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, and Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

Most of the results in the table are from testing done in ( 2016 ). 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.

The U.S. Environmental Protection Agency sets MCL's 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-a-million chance of having the described health effect for other contaminants.

## VIOLATIONS

The Town had no violations for the year 2016.

This Water Quality Report was presented by:

R. H. Park III, Operator

Town of Boydton

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