ANNUAL DRINKING WATER QUALITY REPORT FOR 2001

Town of Broadway, P.O. Box 156, Broadway, Va. 22815
www.town.broadway.va.us

GENERAL INFORMATION

This Annual Drinking Water Quality Report for calendar year 2001 is designed to provide you with valuable information about your drinking water quality. The Town of Broadway is committed to providing you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect the water supply.. The quality of your drinking water meets all state and federal requirements administered by the Virginia Department of Health (VDH), Office of Water Programs.

If you have questions about this report, or want additional information about any aspect of your drinking water, please contact:

Kyle O'Brien
Town Manager
540-896-5152
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You can get additional information by attending a council meeting of the Town of Broadway held the first Tuesday of each month at 7:00 P.M. in the Council Chambers located in the Municipal Building at 116 Broadway Avenue.

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. Substances (referred to as contaminants) in source water 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.

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).

Quality On Tap!

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

Sources and Treatment of Your Drinking Water

During the 2001 calendar year the present plant received a construction permit from the Virginia Department of Health to finish the final stage of the upgrade.

The Town of Broadway's Water Treatment Plant receives water from the North Fork Shenandoah River upstream from its confluence with Linville Creek. Two vertical turbine pumps deliver 694 g.p.m. each to the treatment plant. In case of dry conditions, Linville Creek can be utilized as a back up supply by the use of a slotted T-screen and a gravity line to the pump station. The plant utilizes a conventional treatment process that includes the use of activated alum as the main chemical.

Two flocculation chambers are provided with chlorine being added in the second flocculator.

Settling is accomplished in two parallel sedimentation basins which have a total retention time of two hours. In February 2000, the two 9 feet by 10 feet filters were upgraded to mixed media and are rated at 2.5 gpm/sq.ft. with the capacity to increase filtration when needed at a later date.

Filtered water enters a 51,900 gallon clearwell located under a portion of the treatment plant building. In the clearwell, chlorine and soda ash are added to the finished product.

Two finished water pumps, each rated at 350 g.p.m., deliver the final product to the distribution system. Storage in the distribution system is provided by one 200,000 gallon elevated storage tank, one 255,000 gallons ground storage tank, and one 500,000 gallon ground storage tank.

For testing of the water, equipment is provided to determine chlorine, pH, turbidity, alkalinity, hardness, and fluoride. Four different procedures, jar test, equation, pilot filter, and streaming current monitor, can be utilized to determine the proper chemical dosages.

Source Water Assessments

Under a new program being developed by VDH, a detailed source water assessment will be conducted within the next few years to find ways to better protect our water sources. After the assessment is conducted, the Town will provide you with information about potential sources of contamination and measures to reduce or eliminate them.

Definitions

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:

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment of other requirements which a water system must follow.

Maximum Contaminant Level Goal, or MCLG - the level of a contaminant in drinking water below which there is no known of expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level, or 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.

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

Non-detects (ND) - lab analysis indicates that the contaminant is not present.

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.

Parts per billion (ppb) or micrograms per liter - 1 part per billion corresponds to one minute in 2,000 years,or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanogram per liter (nanogram/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

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

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

Variances and exemptions - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The following tables show the results of our tests.

The following tests are for the period of January 1 to December 31, 2001.

Most of the results in the tables are from testing done in 2001. However, the state allows us to monitor for some contaminants less then once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

MICROBIOLOGICAL

CONTAMINANT	MCLG	MCL	LEVEL FOUND	UNIT MEASURE	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCES OF CONTAMINATION
Total Coliform Bacteria	0	Presence of Coliform bacteria in >1 sample per month	None	Presence or Absence	None	2 samples per month	Naturally present in the environment

TURBIDITY

CONTAMINANT	MCLG	MCL	HIGHEST SINGLE LEVEL	UNIT MEASUREMENT	LOWEST MONTHLY % MEETING 0.5 NTU	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCE OF CONTAMINATION
Turbidity	n/a	TT	.30	NTU	100	None	3/27	Soil Runoff

NITRATES AND FLUORIDE

CONTAMINANT	MCLG	MCL	LEVEL FOUND	UNIT MEASUREMENT	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCE OF CONTAMINATION
Nitrates	10	10	0.96	ppm	No	12/27	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride	4	4	1.41	ppm	No	12/15	Erosion of natural deposits; Discharge from fertilizer and aluminum factories; Water additive which promotes strong teeth.

SYNTHETIC ORGANIC CONTAMINATS: INCLUDING PESTICIDES AND HERBICIDES

CONTAMINANT	MCLG	MCL	LEVEL FOUND	UNIT MEASUREMEN T	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCE OF CONTAMINATION
No Synthetic Organic Contaminants were detected						12/27	

VOLATILE ORGANIC CONTAMINANTS

CONTAMINANT	MGC L	MCL	LEVEL FOUND	UNIT MEASUREMENT	VIOLATION	DATE SAMPLE	TYPICAL SOURCE OF CONTAMINATION
No volatile organic contaminants were detected						12/27	

GROSS ALPHA AND BETA

CONTAMINANT	MCLG	MCL	LEVEL FOUND	UNIT MEASUREMENT	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCE OF CONTAMINATION
Gross Alpha	5	5	0.5	pCi/L	No	12/27	Erosion of natural deposits
Gross Beta	50	50	2.0	Ci/L	No	12/27	Erosion of natural deposits

UNREGULATED CONTAMINANTS

CONTAMINANT	MCLG	MCL	LEVEL FOUND	UNIT MEASUREMENT	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCE OF CONTAMINATION
Chloroform	0	100	5.5	ppb	No	12/27	By-product of drinking water chlorination
Bromodichlo-methane	0	100	1.1	ppb	No	12/27	By-product of drinking water chlorination
Methyl t-butyl ether (MTBE)	0	100	22.0	ppb	No	12/27	By-product of drinking water chlorination

LEAD AND COPPER

CONTAMINANT	MCLG	MCL	LEVEL FOUND	UNIT MEASUREMENT	VIOLATION	DATE OF SAMPLE	TYPICAL SOURCE OF CONTAMINATION
Lead	0	AL= 15	5	ppb	No	7/97	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	1.3	AL= 1.3	.04	mg/l	No	7/97	Corrosion of household plumbing systems; Erosion of natural deposits

The water plant personnel constantly 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 detection limits of the lab equipment.

Maximum Contaminant Levels (MCL's) are set at very stringent levels by the U.S. Environmental Protection Agency (EPA). 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 MCL's 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.

VARIANCE

During the calendar year 2001, the Town received a construction permit from the Virginia Department of Health to increase the flow through the existing water plant from 500,000 gallons per day to 650,000 gallons per day.

VIOLATION INFORMATION

The Town did not have any water quality violations during 2001 and was in full compliance with all monitoring and reporting requirements.

This Drinking Water Quality Report was prepared by Doug Puffenbarger,Water Plant Superintendent for the Town of Broadway. Please call if you have questions (896-3541).