



2019 Annual Consumer Confidence Report

The Public Works Department is pleased to present you with our annual drinking water quality report. Our water treatment plant has earned its sixteenth consecutive award from the Virginia Department of Health (VDH) Office of Drinking Water. This recognition is presented to those waterworks which produce water that exceeds stringent state and federal standards.

With the recent COVID-19 pandemic there may be concerns that water could become contaminated. According to the Centers for Disease Control and Prevention, this virus has not been detected in drinking water, and water treatment methods that use filtration and disinfection should either remove or inactivate the virus. Here at the City our treatment process includes both filtration and chlorine disinfection to ensure that your water remains safe. VDH is always providing guidance to ensure public health and safety remains the number one priority.

Our water treatment operators are constantly striving to provide you with the best water that they possibly can. We are fortunate to have high quality water sources at our means as well as a highly trained staff that continues to pursue greater knowledge in their field. Water plant operators continuously monitor the quality of your water through on-line analyzers as well as daily laboratory tests. They regularly perform mandatory testing, which is overseen by VDH to ensure compliance with strict regulations.

Water is essential for public health, fire protection, economic development, and quality of life. Our dedicated staff is committed to ensuring that quality water is delivered to meet your needs, when you need it. Should you have any questions about your water, where it comes from, or how it is treated, please contact Mr. Seth Hoilman, Chief Water Plant Operator at 332-3961.

THOMAS C. SLIWOSKI
Director, Public Works

City of Staunton

2019 Annual Drinking Water Quality Report



Elkhorn Lake - One of the City's Reservoirs

INTRODUCTION

The Annual Drinking Water Quality Report for 2019 provides you with valuable information about the quality of your drinking water. The treatment of your drinking water is overseen and regulated by the Virginia Department of Health (VDH), Office of Drinking Water. Your health and safety are our highest priority here at the City of Staunton Water Treatment Plant, and we strive to provide you the customer with a product that not only meets all state and federal regulations, but exceeds them.

If you have any questions about this report, need additional information about your drinking water, or simply want to know how to participate in decisions that may affect the quality of your drinking water, please contact Mr. Seth Hoilman, Water Plant Chief Operator, at (540) 332-3961.

GENERAL INFORMATION

As water travels over land and through the ground, it dissolves naturally occurring minerals, and can pick up substances resulting from the influence of human and animal activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural activities, wildlife, urban storm water 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. Staunton's primary water sources include a natural underground spring and two reservoirs.

CONTAMINANTS

All drinking water, including bottled drinking water, may contain small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. However, 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, persons with HIV/AIDS or other immune system disorders, the elderly, and infants may be more at risk from infections. These people should seek advice about drinking water from their health care providers.

LEAD

The City is in full compliance with standards established by VDH and the EPA for lead in drinking water. The Water Treatment Plant samples for lead in finished water, just as it leaves the plant, annually. The City is in compliance with the EPA's 'Lead and Copper Rule'. The most recent mandated sampling for lead was completed in June of 2017, and we will be sampling again in June of this year. Elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water results primarily from materials and components used in service lines that leave the water meter and enter into the structure, as well as various plumbing components. The City is responsible for providing high quality drinking water but cannot control the various materials used in plumbing components installed in homes or other buildings. When drinking water has been sitting in the lines inside a home or building for several hours without use, you can minimize the potential for any exposure to lead by running the tap for 15 to 30 seconds or until the water becomes cold before using it. If you are concerned about lead in your water, you may wish to have your water tested. Lead test kits are available online or at local home improvement stores. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the safe drinking water website sponsored by the Environmental Protection Agency. (www.epa.gov/safewater/lead)

FLUORIDATION

Staunton's drinking water is fluoridated by the addition of an optimum fluoride concentration to help prevent tooth decay. Fluoridation at an optimum level is recommended by the Virginia Board of Health, the American Dental Association, the Centers for Disease Control, and the National Institutes of Health, among numerous other public health organizations. The City of Staunton has been recognized on numerous occasions for its fluoridation program by the Centers for Disease Control and Prevention with their Water Fluoridation Quality Award.

SOURCE WATER ASSESSMENT

A source water assessment was completed by the VDH on April 11, 2002. This assessment determined that the City's water sources may be susceptible to contamination because it is surface water exposed to a wide array of contaminants at varying concentrations and changing hydrologic and atmospheric conditions. Any additional source water assessments would be required at the discretion of VDH.



Staunton Dam - One of the City's water sources

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored for a variety of contaminants based on State and Federal regulations. The tables that follow provide monitoring results for the period of January 1st through December 31st, 2019.

DEFINITIONS

In this table and elsewhere in this report, you will find many terms and abbreviations you may 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.

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

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

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

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

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

Action Level - 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, 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.

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.

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

VIOLATION INFORMATION

The City routinely monitors for contaminants in the water supply and all regulatory requirements are met. The only contaminants listed are those where some level of detection has been found. Many of these contaminants are naturally occurring. Other contaminants have been analyzed; however, they were not present or were below prescribed detection limits and no violations occurred.

Maximum Contaminant Levels (MCL's) are set at stringent levels by the EPA. In developing these 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 these contaminants or a one-in-ten-thousand to a one-in-a-million chance of having the described health effect for these contaminants.

WATER QUALITY RESULTS

Microbiological Contaminants							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source	Meets Regulatory Standards
Turbidity NTU	NA	TT= 0.3 NTU	Max turbidity = 0.068 NTU	No	Daily 2019	Soil runoff.	
		TT = 95% of monthly samples must be < 0.3 NTU	All monthly percentages were 100% of samples < 0.3 NTU				
Total Coliform Bacteria	0	Presence for coliform bacteria < 5% monthly	2	No	Monthly 2019 Positive Sample Dates: Once in July & Once in September	Naturally present in the environment.	
Inorganic Contaminants							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source	Meets Regulatory Standards
Fluoride ppm	4	4	Range: 0.48 to 0.76 Average: 0.64	No	Daily 2019	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.	
Nitrate ppm	10	10	0.764	No	January 2019	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.	
Barium ppm	2	2	0.0175	No	January 2019	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.	
Radiological Contaminants (Next Mandated Sampling: February 2022)							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source	Meets Regulatory Standards
Combined Radium pCi/L	0	5	0.93	No	February 2016	Erosion of natural deposits.	
Alpha Emitters pCi/L	0	15	2.4	No	February 2016	Erosion of natural deposits.	
Gross Beta pCi/L	0	50	2.8	No	February 2016	Decay of natural and man-made deposits.	

Lead & Copper (Next Mandated Sampling: June 2020)							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found / Range	Exceedance	Date of Sample	Typical Source	Meets Regulatory Standards
Copper ppm	0	AL=1.3	0.17 (90 th percentile) None of the 30 samples collected exceeded the AL.	No	June-August 2017	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	
Lead ppb	0	AL=15	4.7 (90 th percentile) None of the 30 samples collected exceeded the AL.	No	June-August 2017	Corrosion of household plumbing systems; erosion of natural deposits.	

Disinfection By-products							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source	Meets Regulatory Standards
Total Trihalomethanes (TTHM's) ppb	0	80	Running Average: 16.0 Range: 8.8 to 27.0	No	Quarterly 2019	By-product of drinking water chlorination.	
Haloacetic Acids (HAA5's) ppb	NA	60	Running Average: 15.0 Range: 8.1 to 23.5	No	Quarterly 2019	By-product of drinking water chlorination.	

Disinfection By-Products Precursors							
Contaminant / Unit of Measurement	MCLG	MCL	Level Found	Violation	Date of Sample	Typical Source	Meets Regulatory Standards
Total Organic Carbon (TOC's) ppm	NA	TT	Range: ND to 0.91	No	Monthly 2019	Naturally present in the environment.	

Disinfectant Residual Contaminants							
Contaminant/Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination	Meets Regulatory Standards
Chlorine mg/L	4	4	0.49 to 1.68	No	Monthly	By-product of drinking water chlorination	

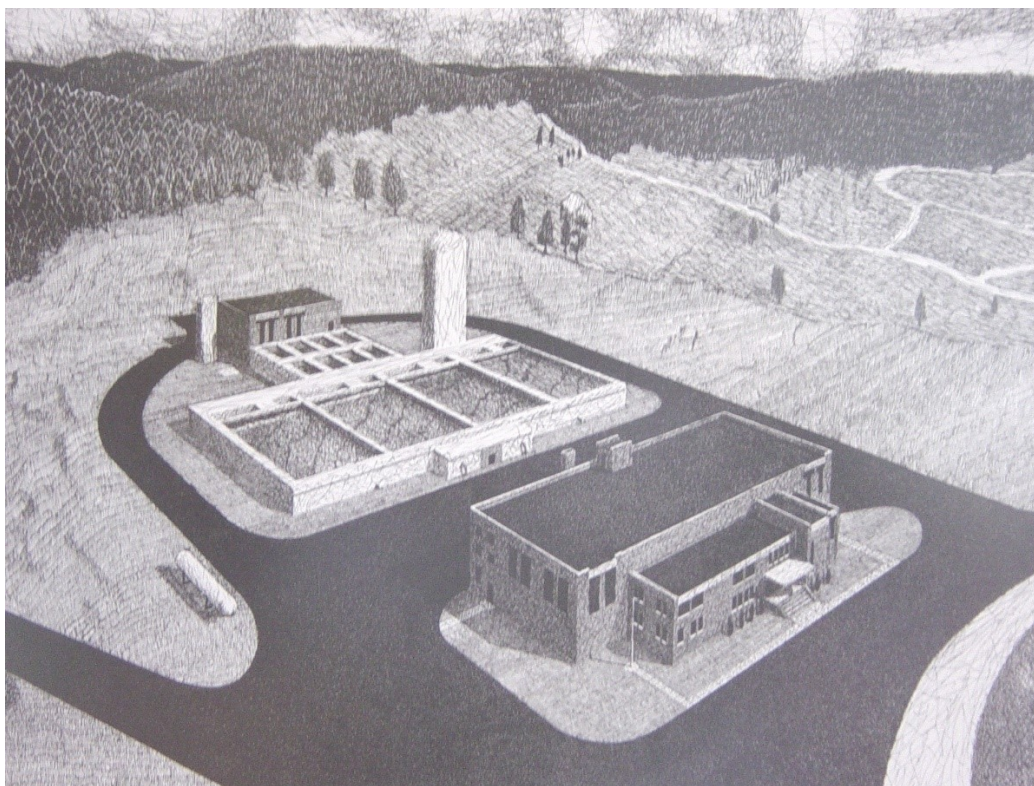
Additional Data:

UCMR (Unregulated Contaminant Monitoring Rule) 4 Sampling

As required by the Environmental Protection Agency (EPA), Staunton sampled a number of unregulated contaminants, which don't have a drinking water standard. The purpose of monitoring for these is to help EPA decide whether the contaminants should have a public health protection standard. Manganese, a naturally occurring element, was detected at 0.968 parts per billion (ppb).

Contaminant/Unit of Measurement	MCLG	MCL	Level Found / Range	Violation	Date of Sample	Typical Source of Contamination	Meets Regulatory Standards
Sodium mg/L	N/A	N/A	2.87	No	January 2019	Erosion of natural deposits, de-icing salt runoff, and water softeners.	No Regulatory Standard.

The results from the preceding table are from testing done in 2019, unless otherwise noted. The state allows us to monitor for some contaminants less than once per year because the concentrations for these contaminants rarely change.



Sketch of Staunton's Water Treatment Plant 1977