2020 Annual Drinking Water Quality Report

Wakefield Waterworks

VA3183900

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2020 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). For information pertaining how you may participate in decisions regarding your water supply you may contact:

Mr. Brian Laine, Mayor
Town of Wakefield
200 West Main Street
Wakefield, VA 23888
757 899-2361

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 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 storm-water 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 storm-water runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic system;
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

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).

In order to ensure that tap water is safe to drink, the 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.

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 lifespan. 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.

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 OF YOUR DRINKING WATER AND TREATMENT
The Wakefield water system receives its water from two (2) well/s located within the subdivision. Your water is treated with chlorine to preserve water quality.

The Virginia Dept. of Health conducted a Source Water Assessment of the Waterworks in 2002. The well was determined to be of low susceptibility to contamination using the criteria developed by the state in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known Land Use Activities and Potential Conduits to Groundwater utilized at Land Use Activity sites in Zone 1, Susceptibility Explanation Chart, and Definition of Key Terms. The report is available by contacting your waterworks system owner/operator at the phone or address included in the CCR.

WATER QUALITY RESULTS
Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The EPA requires that Table I reflect monitoring results for the period of January 1st 2016 through December 31st, 2020. 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 data, though accurate, may be more than one year old. Only the most recent sample results from the prescribed period are reported. 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.

DEFINITIONS
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.
- Parts per million (ppm) or Micrograms per liter (mg/l) - One part per million corresponds to one minute in 2 years, or a single 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 a single penny in $10,000,000.
- 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 (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 (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 Residual Disinfectant Level (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.
- Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a 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.
- Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

WATER QUALITY RESULTS (Detected Contaminants Only)

Contaminant (units)	MCLG	MCL	Level Found	Range	Violation	Date of Sample	Typical Source of Contamination
Fluoride (ppm)	4	4	0.31	0.30 -0.32	No	2020	Erosion of natural deposits.
Alpha Emitters (pCi/L)	0	15	1.0	ND – 1.0	No	2018	Erosion of natural deposits.
Gross Beta (pCi/L)	0	50*	4.1	2.7 – 4.1	No	2018	Erosion of natural and man-made deposits

** The MCL for Gross Beta is 4 mrem/year however EPA considers 50 pCi/L to be the level of concern.*

A note about fluoride in drinking water: Some people who drink water containing fluoride in excess of the MCL (4 ppm) over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

DISINFECTION AND DISINFECTION BY-PRODUCTS

CONTAMINANT (units)	MCLG or MRDLG	MCL or MRDL	Level Detected	Range	Date of Sample	Violation	Typical Source of Contamination
Chlorine (ppm)	4	4	0.60	0.27-1.09	2020	No	Water additive used to control microbes
TTHM (ppb)	80	80	2.2	ND – 2.2	2020	No	By-product of drinking water chlorination

LEAD AND COPPER CONTAMINANTS

CONTAMINANT (units)	MCLG	Action Level	Level Detected	Range	# of samples above AL	Sample Date	Typical Source of Contamination
Copper (ppm)	1.3	1.3	0.202	ND – 0.269	0	2020	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching of wood preservatives.
Lead (ppb)	0	15	6.92	ND – 14.4	0	2020	Corrosion of household plumbing; Erosion of natural deposits

A note about lead in drinking water: 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. This waterworks 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 Nonregulated Monitoring Results

Analyte (units)	Average Level Detected	Range	Date of Samples	Typical Source of Contamination
Sodium (ppm)	89.9	81.4-89.9	2020	Sodium occurs naturally in groundwater. However, sources such as road salt, water softeners, natural underground salt deposits, pollution from septic systems as well as saltwater intrusion due to proximity to the ocean are often causes of elevated levels in drinking water supplies.

A note about sodium in drinking water: Drinking water does not play a significant role in sodium exposure for most individuals. Those that are under treatment for sodium-sensitive hypertension should consult with their health care provider regarding sodium levels in their drinking water supply and the advisability of using an alternative water source or point-of-use treatment to reduce the sodium. For individuals on a very low sodium diet (500 mg/day), EPA recommends that drinking-water sodium not exceed 20 mg/L. The World Health Organization has established a drinking water guideline of 200 mg of sodium/L on the basis of esthetic considerations (i.e., taste).

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