

2019 Annual Drinking Water Quality Report

Mariners Landing Water & Sewer Company, Inc.

This annual Drinking Water Quality Report for calendar year 2019 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 the water supply. The quality of your drinking water must meet State and Federal requirements administered by the Virginia Department of Health (VDH).

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 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.

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

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that 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 that 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 EPA's 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. Mariners Landing Water & Sewer Company, Inc. 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 or until it becomes cold or reaches a steady temperature 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>.

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 AND TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is groundwater from ten drilled wells. The water is treated in a greensand filtration plant by adding potassium permanganate, a chlorine solution, and soda ash to remove iron and manganese, for continuous disinfection, and to make the water less corrosive. The treatment system is operated by the Bedford Regional Water Authority.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The wells were determined to be of high 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 of concern, and documentation of any known contamination within the last 5 years. If you have questions, please contact the office using the information given at the bottom of this water quality report.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. These definitions are provided to help you better understand terms and abbreviations in this report that you might not be familiar with.

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 – one part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

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

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

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 the 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 the waterworks on multiple occasions.

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 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 Residual Disinfection Level Goal or MRDLG – the maximum level of a disinfectant added for water treatment, 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 Disinfection Level or MRDL – the maximum level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

WATER QUALITY RESULTS

<i>Contaminant/ Unit of Measure</i>	<i>Violation</i>	<i>MCLG</i>	<i>MCL</i>	<i>Level Found</i>	<i>Date of Sample</i>	<i>Typical Source of Contamination</i>
<i>Inorganic Contaminants</i>						
Nitrate ppm	No	10	10	0.09	August 2019	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Fluoride ppm	No	4	4	0.10	October 2018	Erosion of natural deposits
Barium ppm	No	2	2	0.0265	June 2017	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
<i>Radiological Contaminants</i>						
Alpha emitters pCi/L	No	0	15	1.1	Dec. 2014	Erosion of natural deposits
<i>Lead and Copper</i>						
Lead ppb	No	0	AL=15	8.6 (90th percentile) Range: 2.6 to 9.1 Of the 5 samples collected, none exceeded the AL.	June 2017	Corrosion of household plumbing systems; erosion of natural deposits
Copper ppm	No	1.3	AL=1.3	0.30 (90th percentile) Range: 0.0339 to 0.484 Of the 5 samples collected, none exceeded the AL.	June 2017	Corrosion of household plumbing systems; erosion of natural deposits
<i>Disinfection Byproducts</i>						
Chlorine ppm	No	MRD LG=4	MRDL=4	Avg: 1.311 Range: 0.20 to 2.203.9	Monthly 2019	Water additive used to control microbes
TTHMs (Total Trihalomethanes) (ppb)	No	NA	80	2.1	August 2019	By-product of drinking water disinfection
HAA5s (Total Haloacetic Acids) (ppb)	No	NA	60	4.33	August 2019	By-product of drinking water disinfection

Sodium: According to the results of the chemical analyses for Metals based on a sample collected on June 13, 2017, the sodium in the treated water was 24.9 mg/L. This is above the EPA recommended optimal level of less than 20 mg/L for sodium in drinking water, which is established for those individuals on a “strict” sodium intake diet.

Notice of Violations in 2019: NONE

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. Not all of the results in the table are from testing done in 2019. 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, though representative, are more than one year old.

CONTACT INFORMATION Operation of the MLW&S water system has been transferred to Bedford Regional Water Authority. If you have questions about this report, need 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 call 540-586-7679; email CustomerService@BRWA.com; or mail or visit the BRWA office at 1723 Falling Creek Road, Bedford, VA 24523.

CONSERVATION TIPS Did you know that the average U.S. household uses approximately 350 gallons of water per day? There are many low-cost or no-cost ways to conserve water. Water your lawn at the least sunny times of the day. Fix toilet and faucet leaks. Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath. Turn the faucet off while brushing teeth and shaving. Make it a family effort to reduce next month's water usage!