

RIDGEUTILITIES,
INCORPORATED



2021 Annual Water Quality Report

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Providing drinking water services to the residents of Blue Ridge Shores.

Ridge Utilities, Inc.

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INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2021 is designed to provide you with valuable information 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:

Mr. Curt Heidel General Manager, at (540) 967-1408

GENERAL INFORMATION

The sources of drinking water (both tap 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 materials, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: (i) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (ii) 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; (iii) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; (iv) organic 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; (v) 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 that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottle water which must provide the same protection for public health.

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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

SOURCES AND TREATMENT OF YOUR DRINKING WATER

The source of your drinking water at Blue Ridge Shores is groundwater obtained from nine (9) drilled wells. They are treated with chlorine for disinfection. Treatment is provided to reduce the natural acidity of the groundwater and make it non-corrosive to our plumbing system.

SOURCE WATER ASSESSMENTS

The Virginia Department of Health conducted a source water assessment of our system in 2021. 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 five years. The report is available by contacting Mr. Curt Heidel, at the phone number or address given elsewhere in this drinking water quality report.

DESCRIPTION OF THE WATER TREATMENT PROCESS

Your water is treated by disinfection. Disinfection involves the addition of chlorine and other disinfectant to kill dangerous bacteria and microorganisms that may be found in the water. Disinfection is considered to be one of the major public health advances of the 21st century.

HOW CAN I GET INVOLVED

Ridge Utilities, Inc. encourages members to attend the regularly scheduled board meetings of Ridge Utilities, Inc. in January, March, July, September and November. Additionally, the Joint Annual Meeting of the Ridge Utilities, Inc. Board of Directors is held the third week of May annually. Members are also encouraged to run for the Board of Directors. Our bi-monthly newsletter, The Shore Line will provide additional information concerning Ridge Utilities, Inc. and drinking water-related issues. For additional information please contact our office at (540) 967-1408.

ADDITIONAL HEALTH INFORMATION

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. Ridge Utilities, Inc. is responsible for providing high quality drinking water to Blue Ridge Shores, 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>.

WATER CONSERVATION TIPS

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water. Small changes can make a big difference – try one today and soon it will become second nature.

- Take short showers - a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They're inexpensive, easy to install, and can save you up to 750 gallons a month.
- Thaw in the refrigerator overnight rather than using a tap of hot water.
- Use only full loads of laundry or use the appropriate water level or load size selection on the washing machine.
- Sweep driveways, sidewalks, and steps rather than hosing off.
- Wash the car with water from a bucket, or consider using a commercial car wash that recycles water.
- Visit www.epa.gov/watersense for more information and helpful tips on water conservation.

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State regulations for a variety of contaminants. The table on Page 5 shows the results of our monitoring for the period of January 31st through December 31st, 2021.

The state allows us to monitor for some contaminants less than once a year because the concentrations of these contaminants do not change frequently. Some of our data presented in the tables, though accurate, is more than one year old.

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.

DEFINITIONS

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the next page shows the results of our monitoring for the period of January 1, 2021 to December 31, 2021. 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:

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 non-known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfection Level Goal, or 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.

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.

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 – one part per billion 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) - 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.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is 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 contaminate in drinking water.

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

Level 1 Assessment—A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment—A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E.coli* PMCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

WATER QUALITY RESULTS

Microbiological Contaminants

Contaminant	MCLG	MCL	No. of Samples Indicating Presence of Bacteria	Violation (Y/N)	Month of Sampling	Typical Source of Contamination
E. coli	0	1 routine sample and a repeat sample are total coliform positive, and 1 is also <i>E. coli</i> positive	0	N	NA	Human and animal fecal waste

Regulated Contaminants

Contaminant (units)	MCLG	MCL	Level Detected	Violation (Y/N)	Sampling Year	Typical Source of Contamination
Nitrate (mg/l)	10	10	2.19 Range: 1.21 – 2.19	N	2021	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits.
Fluoride (mg/l)	4	4	0.24 Range: ND-0.24	N	2019	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Sodium (mg/l)	-	-	16.7 Range: 14.1-16.7	N	2019	Erosion of natural deposits; de-icing salt runoff; water softeners
Alpha Emitters (pCi/l)	0	15	10 Range: 7.4-10.0	N	2018 & 2021	Erosion of Natural Deposits
Beta Particle and Photon Radioactivity (pCi/l)	0	50	5.9 Range: 5.4-5.9	N	2018 & 2021	Decay of natural and man-made deposits
Combined Radium (pCi/l)	0	5	0.1 Range: 0.018-0.1	N	2018 & 2021	Erosion of Natural Deposits

*Analysis frequency for radiologicals is every 3 to 6 years. ***The PMCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.

Lead and Copper Contaminants

Contaminant (Units)	MCLG	MCL or TT	90th Percentile	AL Exceeded	Samples >AL	Sampling Year	Typical Source of Contamination
Lead (ppb)	0	AL = 15	ND	No	0 of 10	2019	Corrosion of household plumbing system; Erosion of natural deposits
Copper (ppm)	1.3	AL = 1.3	0.513	No	0 of 10	2019	Corrosion of household plumbing; Erosion of natural deposits

Disinfectant Residual

Contaminant (Units)	MRDLG	MRDL	Level Found Average & Range	Violation (Y/N)	Sampling Year	Typical Source of Contamination
Chlorine (mg/l)	4	4	0.75 Range: 0.6-1.0	N	2021	Water additive used to control microbes

Organic Contaminants

Contaminant (Units)	MCLG	MCL	Level Found	Violation	Sampling Year	Typical Source of Contamination
TTHMs-Total Trihalomethanes	NA	80	0.5	No	2021	By-product of drinking water chlorination

2021 VIOLATION INFORMATION

Did any PMCL or TT violation occur during the year? Yes No

Did any monitoring, reporting, or other violations occur during the year? Yes No

No drinking water violations in 2021.

This Drinking Water Quality Report was prepared by Ridge Utilities, Inc. with the assistance and approval of the Virginia Department of Health. Please call or email any questions you may have. Contact information for Ridge Utilities, Inc. is listed below.

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**APPENDIX A
WATERWORKS QUESTIONNAIRE**

Name _____ Date _____
 Address _____
 Home Telephone _____

Property Owner if not current resident
 Name _____
 Address _____
 City, State, Zip _____
 Telephone _____

Please check any item that may apply to your premises:

Outside Spigot without Vacuum Breaker	Swimming Pool	
Frost-proof Spigot without Vacuum Breaker	Jacuzzi / Hot Tub	
Yard Hydrant, Yard Spigot, Standpipe	Solar Heating System	
Shampoo Bowl/Sink	Steam or Hot Water Heating System	
Private Well, Spring or Cistern	Lawn Irrigation Sprinkler System	
Darkroom / Photo Development	Fire Protection Sprinkler System	
Mop Sink, Laundry Sink, Utility Sink with Hose Bibb Threads	Hose End Sprayer for Fertilizer or Other Chemicals	
Baptismal Pool	Pressure Booster Pump	
Dye Vat	Water Storage Tank	
Carbonated Drink Machine	Dialysis Equipment	

Please offer a brief description of any other items or treatment units connected to the water system on your property:

Please list any existing cross connection control devices you have installed and if they appear to be working properly:

Any additional comments:

APPENDIX B
BACKFLOW PREVENTION DEVICE STANDARDS AND INSTALLATION

- A. Backflow prevention devices shall be of the approved type and shall comply with the most recent American Water Works Association (AWWA) Standards and shall be approved for containment by the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research (USC).
- B. The required device shall be installed or constructed in accordance with the Uniform Statewide Building Code, the *Waterworks Regulations*, manufacturers' recommendations and the USC as appropriate. Vertical or horizontal positioning shall be as approved by the USC.
- C. A device shall be installed where the plumbing fixture connects to the premises water supply system (Point of Use), or the waterworks, as appropriate. Point-of-use isolation devices shall bear an appropriate American Society of Sanitary Engineering (ASSE) Standard Number.
- D. Devices with openings, outlets, or vents that are designed to operate or open during backflow prevention shall not be installed in pits or areas subject to flooding.
- E. The minimum air gap shall be twice the effective opening of a potable water outlet. If the outlet is a distance less than three times the effective opening away from a wall or similar vertical surface, the minimum air gap shall be three times the effective opening of the outlet. In no case shall the minimum air gap be less than one inch.

**APPENDIX C
BACKFLOW PREVENTION DEVICE APPLICATIONS**

Degree of Hazard	Method of Backflow	Pressure or Flow Conditions	Device	ASSE #
High	Backpressure or Backsiphonage	Continuous	RPZ	1013 & 1047
High	Backsiphonage only	Non-continuous Non-continuous Non-continuous Continuous	Pipe-Applied AVB Hose Bibb AVB Wall Hydrant with AVB PVB	1001 & 1035 1011 & 1052 1019 1020 & 1056
Moderate	Backpressure or Backsiphonage	Continuous	DG-DC	1015 & 1048
Low	Backsiphonage only	Continuous	Dual Check w/o vent Dual Check with vent	1024 & 1032 1012

Degree of Hazard - See Table 2.10: Determination of Degree of Hazard in the Waterworks Regulations.

Continuous means operating under continuous flow or pressure. This condition usually applies to devices installed inline and may have valves downstream of the device.

Non-continuous means operating intermittently not to exceed 12 hours under continuous pressure or flow in a 24-hour period. This condition usually applies to devices, which are connected to hose bibs, hydrants, or faucets, which are open to the atmosphere. Valves should not be located downstream of the device.

DEVICES

RPZ means a reduced pressure principal backflow prevention assembly.

Pipe applied AVB means an atmospheric vacuum breaker permanently installed in the plumbing or on faucets.

Hose bib AVB means a hose bib type atmospheric vacuum breaker with a single or with dual checks and a vent.

Wall hydrant w/AVB means a through the wall, frostproof self-draining type wall hydrant with AVB attached or built in.

PVB means a pressure vacuum breaker.

Spill resistant AVB have the same ASSE # as standard, pipe applied AVB.

Spill resistant PVB have ASSE # 1056.

DG-DC means a double gate-double check valve assembly.

Dual Check without a vent means a device composed of two independently acting check valves ("residential dual check" and "beverage dispenser dual check").

Double check with a vent means a device composed of two independently acting check valves with an intermediate atmospheric vent ("boiler dual check").

Yard hydrants, which are frostproof and drain the water in the barrel through an underground weephole are subject to contamination and are prohibited.

Some wall hydrants will not drain if a hose is connected.

APPENDIX D
COMMON BACKFLOW PREVENTION DEVICE APPLICATIONS

CONDITION	DEVICE
Fire Protection System Connections ¹	RPZ
Booster Pump Connections	Low Pressure Regulating or Cut-off Device ²
Boiler System Connections, no additives	DCVA, RPZ
Boiler System Connections, with chemical additives	RPZ, Air gap
Irrigation System Connections	
• Without chemical additives	AVB ³ , PVB ⁴
• With chemical additives	RPZ
Ornamental Fountains	DCVA, RPZ, AVB, PVB
Threaded hose bibbs	Hose Bibb Vacuum Breaker, Frostproof Automatic draining wall hydrant
Laboratory Faucets, Bench Equipment	AVB, PVB
Shampoo Basins	AVB
Sinks, Vats, Tanks, Receptacles	Air gap
Swimming Pool, Hot Tub, Sauna	RPZ, Air gap
Washing Machines	AVB, PVB
Steam Tables, Kitchen Equipment	AVB
Cooling Systems, Towers	PRZ
Trap Primers	Air Gap
Steam Generator	RPZ
Degreasing Equipment	DCVA
Industrial Fluid Systems Connection	RPZ
Sewage Pump, Ejector, Sewer Connection	Air gap
Medical/Dental Equipment	
• Aspirator	AVB, PVB
• Bedpan Washer	AVB, PVB
• Autoclave	RPZ
• Specimen Tanks	AVB, PVB
• Sterilizers	RPZ
• Cuspidors	AVB, PVB
Autopsy & Mortuary Equipment	AVB, PVB
Vending Machines	RPZ, PVB
Carbonated Beverage Dispensers, Post Mix	RPZ

NOTES:

1. A backflow prevention device is not required for a fire protection system if:
 - water flows freely through the fire protection system,
 - the potable water is not allowed to stagnate or deteriorate in water quality,
 - the fire protection system is constructed of piping, joints and connections approved for water distribution systems (NSF pw) and
 - no chemical additives are used.
2. When the suction pressure drops to a minimum pressure as determined by hydraulic analysis and not to be less than 10 psi.
3. Shall be installed and located at least 12 inches above the highest outlet or flood elevation but no more than 30 inches above the ground.
4. Shall be installed and located at least 6 inches above the highest outlet or flood elevation but not more than 30 inches above the ground.