

Green Ridge Utilities, Inc.

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Annual Water Quality Report 2022

Message from Dana Hill, President

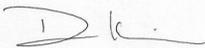
Dear Green Ridge Utilities, Inc. Customers,

I am pleased to present your Annual Water Quality Report for 2022. Transparency, health, and safety are key priorities in our company's efforts to provide a high-quality, reliable water supply. Included in this report are details about where your water comes from, what it contains, and how it compares to regulatory standards.

We are proud to share this report which is based on water quality testing through December 2022. We continually strive to supply water that meets and/or exceeds all federal and state water quality regulations at your tap.

Treating and maintaining a safe and reliable water supply is not only hard work, but it is rewarding. Our team of local water experts are proudly dedicated to providing safe, reliable, and cost-effective service every day. This commitment includes acting with integrity, protecting the environment, and enhancing the local community.

Best regards,



Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

COVID-19 Response

According to the Centers for Disease Control and Prevention (CDC) and the US Environmental Protection Agency (EPA), the virus that causes COVID-19 has not been detected in drinking water. Conventional water treatment methods that use disinfection, such as those provided by Green Ridge Utilities, Inc., should remove or inactivate the virus that causes COVID-19 as they do for other pathogens.

Based on current evidence, the risk to water supplies remains low. Customers can continue using and drinking tap water as usual.

The EPA also encourages the public to help keep household plumbing and our nation's water infrastructure operating properly by only flushing toilet paper. **Disinfecting or other sanitary wipes, including those labeled as "flushable" and other non-toilet paper items, should NOT be flushed in toilet.**

For more information, visit the CDC at <https://stacks.cdc.gov/view/cdc/85879> and EPA at <https://www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater>.

Source of Drinking Water

Our wells draw from the Port Deposit Gneiss aquifer in Harford County. An aquifer is a geological formation that contains water. Between January and June 2022, we also purchased water from the Harford County Water System. Harford County draws water from several sources. The Perryman Water Plant draws water from the Potomac group aquifer. The Abingdon Water Plant draws surface water from the Susquehanna River or the Loch Raven Reservoir and the County's Havre de Grace Water Plant draws water from the Susquehanna River.

Source Water Assessment (SWA)

The Maryland Department of the Environment (MDE) has completed a Source Water Assessment for the water system.

The source for Green Ridge Utilities water supply is an unconfined, Piedmont aquifer known as the Port Deposit Gneiss. The Source Water Assessment area for the Green Ridge Utilities wells were delineated using U.S. EPA approved methods specifically designed for each source. Potential sources of contamination within the assessment area were identified based on site visits, database reviews, and land use maps. Well information and water quality data were also reviewed. Figures showing land use and potential contaminant sources within the SWA area and an aerial photograph of the well locations are enclosed in the full (SWA) report.

The susceptibility analysis of the Green Ridge Utilities water supply was based on the review of the water quality data, potential sources of contamination, aquifer characteristics, and well integrity. It was determined that the Green Ridge Utilities water supply is susceptible to contamination by nitrates, and radionuclides, but is not susceptible to volatile organic compounds (VOCs), synthetic organic compounds (SOCs), microbiological contaminants, and other regulated inorganic compounds (IOCs).

If you would like to review the report or have any other questions or concerns regarding it please call our office at (844) 310-6660.

[We ask that all our customers help us protect our water sources which are the heart of our community, our way of life and our children's future.](#)

Visit us online at www.uiwater.com/maryland to view the Water Quality Reports. Also visit our website for water conservation tips and other educational material.

EPA Wants You To Know

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 that may be present in source water include:**

- A. **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. **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.
- C. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D. **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 systems.
- E. **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

What measures are in place to ensure water is safe to drink?

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. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Special notice from EPA for the elderly, infants, cancer patients and people with HIV/AIDS or other immune system problems

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. USEPA/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 (1-800-426-4791).

Information Concerning Lead in Water

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. Green Ridge Utilities, Inc. is responsible for providing high quality drinking water and removing lead pipes, but cannot control

the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact Green Ridge Utilities, Inc. at (844) 310-6660. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

Water that remains stationary within your home plumbing for extended periods of time can leach lead out of pipes joined with lead-containing solder as well as brass fixtures or galvanized pipes. Flushing fixtures has been found to be an effective means of reducing lead levels. The flushing process could take from 30 seconds to 2 minutes or longer until it becomes cold or reaches a steady temperature. Faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions. Visit the NSF Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

Drain Disposal Information

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. A common cause is sewer pipes blocked by grease, which gets into the sewer from household drains. Grease sticks to the insides of pipes. Over time, the grease can build up and block the entire pipe. Help solve the grease problem by keeping this material out of the sewer system in the first place:

- Never pour grease down sink drains or into toilets. Scrape grease into a can or trash.
- Put strainers in sink drains to catch food scraps / solids for disposal.

Prescription Medication and Hazardous Waste

Household products such as paints, cleaners, oils, and pesticides, are considered to be household hazardous waste. Prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the wastewater treatment system and enter rivers and lakes (or leach into the ground and seep into groundwater in a septic system). Follow the directions for proper disposal procedures. **Do not flush hazardous waste or prescription and over-the-counter drugs down the toilet or drain.** They may flow downstream to serve as sources for community drinking water supplies. Many communities offer a variety of options for conveniently and safely managing these items. For more information, visit the EPA website at: www.epa.gov/hw/household-hazardous-waste-hhw.

The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

Understanding This Report In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.

Action level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Action level goal (ALG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.
Compliance Level (CL)	Is the value used to determine compliance with MCL or TT. The CL for contaminants can be a maximum test value, an average, or meeting a condition for a certain percentage of the time.
EPA	Environmental Protection Agency.
Intestinal Parasites	Microorganisms like Cryptosporidium and Giardia lamblia can cause gastrointestinal illness (e.g., diarrhea, vomiting, cramps). In 2004, two samples of untreated river water showed the presence of Giardia lamblia and Cryptosporidium. None were found in the treated drinking water.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's 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.
Not applicable (N/A)	Not applicable.
Not Detected (ND)	Analysis or test results indicate the constituent is not detectable at minimum reporting limit.
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 (ug/l)	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)	A measure of radioactivity in the water.
Running Annual Average (RAA)	Calculated running annual average of all contaminant levels detected.
Standard units (S.U.)	Is a measurement of that particular regulated contaminant
Nephelometric Turbidity Units (NTU)	A measure of water clarity. Turbidity in excess of 5 NTU is just noticeable to the average person
Treatment Technique (TT)	A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Help Protect our Resources

Help put a stop to the more than **1 trillion gallons of water lost annually** nationwide due to household leaks. These easy to fix leaks waste the average family the amount of water used to fill a backyard swimming pool each year. Plumbing leaks can run up your family's water bill an extra 10 percent or more, but chasing down these water and money wasting culprits is as easy as 1—2—3. Simply check, twist, and replace your way to fewer leaks and more water savings:

- ⇒ **Check** for silent leaks in the toilet with a few drops of food coloring in the tank, and check your sprinkler system for winter damage.
- ⇒ **Twist** faucet valves; tighten pipe connections; and secure your hose to the spigot. For additional savings, twist a WaterSense labeled aerator onto each bathroom faucet to save water without noticing a difference in flow. They can save a household more than 500 gallons each year—equivalent to the amount water used to shower 180 times!
- ⇒ **Replace** old plumbing fixtures and irrigation controllers that are wasting water with WaterSense labeled models that are independently certified to use 20 percent less water and perform well.

For more information visit www.epa.gov/watersense.

Monitoring Your Water

We routinely monitor for contaminants in your drinking water according to Federal and State laws. The tables

below lists all the drinking water contaminants that were detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in the table is from testing done January 1 through December 31, 2022.** The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, maybe more than one year old. *MCLs are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.*

If You Have Questions Or Want To Get Involved

Green Ridge Utilities, Inc. does not currently hold regular public meetings. Should the Utility hold a public meeting, you will be notified through the mail or public notice. Please call customer service at (844) 310-6660 if you have any questions. You may also call Talad Said or Allen Webb at (410) 638-3939 for questions on the Harford County test results or visit www.harfordcountymd.gov/782/Water-Sewer [choose Water Quality Report] for additional information.

Water Quality Test Results Green Ridge Utilities, Inc.

Inorganic Contaminants

Contaminants (units)	Year Sampled	MRDL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	2022	N	0.014	0 - 0.014	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Nitrate (as Nitrogen) (ppm)	2022	N	5	3.79 - 6.23	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Disinfection Byproduct Compliance

Contaminant (units)	Year Sampled	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Chlorine (ppm)	2022	N	1.3	1.1- 1.3	MRDLG = 4	MRDL = 4	Water additive used to control microbes
HAA5 (ppb) [Total Haloacetic Acids]	2021	N	17	0 - 17.1	N/A	60	By-product of drinking water chlorination
TTHM (ppb) [Total Trihalomethanes]	2021	N	36	1.1- 35.8	N/A	80	By-product of drinking water chlorination

Radioactive Contaminants

Combined Radium 226/228 (pCi/L)	2021	N	0.5	0.5 - 0.5	0	5	Erosion of natural deposits.
Gross Alpha excluding Radon and Uranium (pCi/L)	2021	N	2.9	0 - 2.9	0	15	Erosion of natural deposits.

Lead and Copper

Contaminants (units)	Collection Date	90th Percentile of all samples collected	# of sites exceeding the Action Level	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90th percentile)	2022	0.3325	0	1.3	1.3	Corrosion of interior plumbing, Erosion of natural deposits

PFAS Testing - Maryland Department of the Environment (MDE)

PFAS – or per- and polyfluoroalkyl substances – refers to a large group of more than 4,000 human-made chemicals that have been used since the 1940s in a range of products, including stain- and water-resistant fabrics and carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams. These uses of PFAS have led to PFAS entering our environment, where they have been measured by several states in soil, surface water, groundwater, and seafood. Some PFAS can last a long time in the environment and in the human body and can accumulate in the food chain.

Beginning in 2020, the Maryland Department of the Environment (MDE) initiated a PFAS monitoring program. PFOA and PFOS are two of the most prevalent PFAS compounds. PFOA and PFOS concentrations from samples taken from our water system in 2022 were 7.76 parts per trillion (ppt) and 2.98 ppt, respectively. In March 2023, EPA announced proposed Maximum Contaminant Levels (MCLs) of 4 ppt for PFOA and 4 ppt for PFOS, and a Group Hazard Index for four additional PFAS compounds. Future regulations would require additional monitoring as well as certain actions for systems above the MCLs or Hazard Index. EPA will publish the final MCLs and requirements by the end of 2023 or beginning of 2024. Additional information about PFAS can be found on the MDE website: mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx.

To access your utility account anytime, anywhere, please register for our customer portal & download My Utility Account at <https://account.myutility.us>



PFAS Testing

Green Ridge Utilities, Inc. continues efforts to conduct statewide drinking water testing for Per- and Polyfluoroalkyl Substances (PFAS). These man-made compounds are used in the manufacturing of products resistant to water, grease or stains including firefighting foams, cleaners, cosmetics, paints, adhesives and insecticides. PFAS can migrate into the soil, water, and air and is likely present in the blood of humans and animals all over the world. The Environmental Protection Agency (EPA) has established health advisory levels for GenX, PFBS, PFOA, and PFOS, and has proposed enforceable limits. We are reviewing the proposed MCLs to evaluate the impact on our operations and on the communities we serve. **Our focus will remain, as always, on supplying our customers with safe and reliable water.**

For the latest PFAS results, visit our website at www.uiwater.com/maryland and click Water Quality Reports under Water Safety. For more information visit <https://www.epa.gov/pfas>.

Green Ridge Utilities, Inc. is committed to providing safe, reliable, and cost-effective drinking water services to all our customers.

Unregulated Contaminants PFAS Results (All results reported as Nanograms per liter (ng/L))

Contaminant	Sample Date	Range of Detect	Highest Level	Average	EPA HAL
PFOS	2022	2.05-2.98	2.98	2.67	0.02
PFOA	2022	4.01-7.76	7.76	5.40	0.004
PFBS	2022	ND-7.43	7.43	4.53	2,000
PFHpA	2022	ND-3.84	3.84	1.28	N/A
PFHxS	2022	ND-2.74	2.74	1.72	N/A
PFHxA	2022	3.26-6.11	6.11	4.76	N/A

Terms and Abbreviations:

- **GenX** – Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)
- **PFBS** – Perfluorobutanesulfonic Acid
- **PFHxS** - Perfluoro-hexanesulfonic acid
- **PFOS** – Perfluorooctane Sulfonate
- **PFOA** – Perfluorooctanoic Acid
- **Health Advisory Level (HAL)** – To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to GenX, PFBS, PFOA and PFOS from drinking water, EPA established health advisory levels. Current lab capabilities do not allow for the detection of PFOS and PFOA at the HAL.
- **Ng/L** – Nanograms per liter (ng/L) which equals Parts per trillion (ppt) – One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **ND (No Detect)** - No detection means the constituent is not detectable at the minimum reporting limit.
- **PFHpA** - Perfluoro-heptanoic acid
- **PFHxA** - Perfluoro-hexanoic acid

Violations

In 2022, Green Ridge Utilities, Inc. performed all required monitoring for contaminants and did not exceed any allowable levels of these contaminants. In addition, we received **no violations** from MDE and was in compliance with applicable testing and reporting requirements.

2022 Water Quality Test Results - Harford County DPW

Inorganic Contaminants

Contaminants	MCLG	MCL	CL*	Range Low	Range High	Violation	Typical Source
Antimony (ppb)	6	6	0.5	ND	0.5	No	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder.
Barium (ppm)	2	2	0.11	ND	0.11	No	Discharge of drilling wastes, Discharge from metal refineries, Erosion of natural deposits.
Chromium (ppb)	100	100	2	ND	2	No	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride (ppm)	4	4	0.8	ND	0.8	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories. Avg = 0.57 ppm
Nitrate (ppm of Nitrogen)	10	10	3.5	1.3	3.5	No	Runoff from fertilizer use; leaking from septic tanks, sewage; erosion of natural deposits.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Disinfectant & Disinfection By-Products

Haloacetic Acids (HAA5) (ppb)	NA	60	20.1	6.3	22.8	No	Byproduct of drinking water disinfection. CL=highest locational running annual average.
Total Trihalomethanes (TTHMs) (ppb)	NA	80	36.0	3.2	41.7	No	Byproduct of drinking water disinfection. CL=highest locational running annual average.

Microbiological Contaminants

Total Coliform (5% positive/month)	0%	5%	0%	0%	0%	No	Coliforms are naturally present in the environment. Zero positive of 1440 samples
Turbidity (NTU) TT ≤ 0.3 in 95% of samples in a month. Never > 1.0	N/A	TT	100%	0.011	0.166	No	From soil runoff. Avg. = 0.039 NTU

Organic Contaminants

Atrazine (ppb)	3	3	0.25	ND	0.25	No	Runoff from herbicide used on row crops.
Total Organic Carbon (ppm)	N/A	TT	Multiple compliance Criteria	0.96	2.57	No	Organic matter. It can provide a medium for formation of disinfection by-products.

Radioactive Contaminants

Combined Radium (226 & 228) (pCi/L)	0	5	3.2	3.2	3.2	No	Erosion of natural deposits.
Gross Alpha (pCi/L)	0	15	4.3	4.3	4.3	No	Erosion of natural deposits.

***Compliance Level (CL)** – Is the value used to determine compliance with MCL or TT. The CL for contaminants can be a maximum test value, an average, or meeting a condition for a certain percentage of the time.

Note: The 2nd quarter Nitrate result was not reported by Harford County's subcontract laboratory to MDE by July 10, 2022. This late reporting of the analytical result was a clerical error and it did not affect the quality of the water. The sample taken on May 17, 2022 had a concentration of 3.27 mg/L which is below the 10 mg/L MCL.

Unregulated parameters are monitored in order to assist EPA in determining where certain contaminants occur and whether additional regulations may be necessary:

Unregulated Contaminants	Avg.	Low	High	Typical Source
Iron (ppm)	<0.10	ND	0.151	Erosion of natural deposits.
Manganese (ppm)	0.019	0.018	0.020	Erosion of natural deposits.
Nickel (ppm)	0.003	ND	0.006	Corrosion of pipes and fittings; erosion of natural deposits.
PFOA (ppt)	<1.0	ND	1.6	Firefighting foams, industrial waste sites. EPA proposed MCL of 4 ppt
PFOS (ppt)	<1.0	ND	2.5	Firefighting foams, industrial waste sites. EPA proposed MCL of 4 ppt
PFBS (ppt)	<1.0	ND	2.1	Firefighting foams, industrial waste sites. EPA proposed Hazard index of <1.0
PFHxS (ppt)	<1.0	ND	2.2	Firefighting foams, industrial waste sites. EPA proposed Hazard index of <1.0
Sodium (ppm)	31.6	13.5	75.2	Erosion of natural deposits; Sodium salts used in water treatment.

Raw Water Contaminants

Contaminants	MCLG	MCL	Range Low	Range High	Typical Source
Cryptosporidium (oocyst/liter)	0	TT	ND	ND	Human/animal fecal waste.
Giardia (cyst/liter)	0	TT	ND	1.3	Human/animal fecal waste. Susquehanna River (HdG Plant)