TOWN OF BOONSBORO

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BOONSBORO/KEEDYSVILLE REGIONAL WATER SYSTEM
2024 ANNUAL DRINKING WATER QUALITY REPORT, PWSID #0210002

We are very pleased to present to you the Boonsboro/Keedysville Regional Water System's Annual Drinking Water Quality Report for the 2024 calendar year. Our goal is to consistently provide you with a safe and dependable supply of drinking water by continuing to improve the water treatment process and taking extra steps to protect our valuable water resources. We are committed to ensuring the safe quality of the water that reaches your tap, as reflected in the monitoring results included with this report.

Your drinking water comes from the Tomstown Dolomite, a geological formation made of carbonate rock, which forms an aquifer feeding a combination of wells and springs which is filtered, chlorinated, and processed with fluoride through the Boonsboro and Keedysville Water Treatment Plants. The plants process water from four sources; the Keedysville Spring, the Warrenfeltz Spring, Well 8 in Graystone, and the Shafer Park Well; all ground water sources under the direct influence of surface water. 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. The Boonsboro/Keedysville Water system staff diligently monitors contaminants in your drinking water, ensuring safety according to Federal and State laws. Maryland Department of the Environment (MDE) has conducted a source water assessment which is available upon request and online at http://www.mde.state.md.us/programs/Water/water_supply/Source_Water_Assessment_Program/Pages/wa.aspx.

Your water is tested because all sources of drinking water are subject to potential contamination by substances that are naturally occurring or man-made. As water travels over the land or underground, it can pick up substances or contaminants such as: Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; Inorganic contaminants, 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 storm water runoff, and septic systems; and Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Is my water safe? Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health risks can be obtained by calling EPA's Safe Drinking Water Hotline at (800) 426-4791. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population.

Boonsboro/Keedysville Regional Water System meets all Federal (EPA) and State (Maryland) regulatory requirements. If any of the Maximum Contaminant Levels (MCLs) or reporting requirements were exceeded or violated during the period that this report covers, the health effects and reasons for the violations would be stated in this report.

Do I need to take special precautions? Immuno-compromised people such as those 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 EPA Safe Drinking Water Hotline (800-426- 4791). 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.

Boonsboro/Keedysville Regional Water System 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. An initial inventory of service line pipe materials located within our service area was required to be submitted to the Maryland Department of the Environment (MDE) by October 16, 2024. Our initial inventory was submitted on October 16, 2024 and is available upon request. If you are concerned about lead in your water and wish to have your water tested, contact The Town of Boonsboro and info@townofboonsboro.com. 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. To learn more about your town's water system, please consider attending the monthly meeting of the Boonsboro Municipal Utilities Commission or the Keedysville Water Board. For information regarding meeting dates, times, and locations, please contact your local town hall or visit www.town.boonsboro.md.us and www.keedysvillemd.com. In the tables below, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions:

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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. ALGs allow for a margin of safety.

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 MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum Contaminant Level or MCL: The highest level of contaminants that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal or MCLG: The level of contaminants 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 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.
Treatment Technique or TT: A required process intended to reduce the level of contaminants in drinking water.
Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
Avg: Average - Regulatory compliance with some MCLs are based on running annual average of monthly samples.
LRAA: Locational Running Annual Average
mrem: millirems per year (a measure of radiation absorbed by the body)
ppt: One part per trillion is equivalent to one nanogram (ng/L) per liter. A single drop of food coloring in 18 million gallons of water.
ppb: micrograms per liter (ug/L) or parts per billion - or one ounce in 7,350,000 gallons of water.
ppm: milligrams per liter (mg/L) or parts per million - or one ounce in 7,350 gallons of water
picocuries per liter (pCi/L): picocuries per liter is a measure of the radioactivity in water.
na: not applicable.

Our water system tested a minimum of 5 sample(s) per month in accordance with the Total Coliform Rule for microbiological contaminants. With the microbiological samples collected, the water system collects disinfectant residuals to ensure control of microbial growth.

Disinfectant	Date	Highest RAA	Unit	Range	MRDL	MRDLG	Typical Source
CHLORINE	2024	1	ppm	-	4	4	Water additive used to control microbes

Regulated Contaminants

In the tables below, we have shown the regulated contaminants that were detected. Chemical Sampling of our drinking water may not be required on an annual basis; therefore, information provided in this table refers back to the latest year of chemical sampling results.

Disinfection Byproducts	Sample Point	Period	Highest LRAA	Range	Unit	MCL	MCLG	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	MAINTENANCE SHOP	2023 - 2024	0	0 - 0	ppb	60	0	By-product of drinking water disinfection
TOTAL HALOACETIC ACIDS (HAA5)	TOWN HALL	2023 - 2024	1	0 - 0	ppb	60	0	By-product of drinking water disinfection
TTHM	MAINTENANCE SHOP	2023 - 2024	2	0 - 6.2	ppb	80	0	By-product of drinking water chlorination
TTHM	TOWN HALL	2023 - 2024	4	0 - 3.5	ppb	80	0	By-product of drinking water chlorination

Regulated Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
BARIUM	10/28/2024	0.08	0.062 - 0.08	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
FLUORIDE	10/28/2024	0.2	0.2	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
NITRATE	10/28/2024	4.5	2.9 - 4.5	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
NITRATE-NITRITE	7/2/2023	4.6	2.9 - 4.6	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
NITRITE	12/3/2020	0.00296	0.00219 - 0.00296	ppm	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

Radiological Contaminants	Collection Date	Highest Value	Range	Unit	MCL	MCLG	Typical Source
RADIUM-228	8/23/2021	0.9	0 - 0.9	PCI/L	5	0	Erosion of natural deposits

Turbidity

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.

Percentage of samples in compliance with Std	Months Occurred	Violation	Highest Single Measurement	Month Occurred	Sources	Level Indicator
100.00	12	NO	0.06	April	WTP 1- BOONSBORO PLANT	Yes
100.00	12	NO	1	April	WTP 3- KEEDYSVILLE PLANT	Yes

Lead & Copper

Calculation the 90th Percentile - For lead and copper, list samples from the lowest recorded value to the highest value. Starting from the botton (lowest value) count up until the calculated number (# of samples analyzed X 0.9) is reached. The sample value in this number position is the 90th percentile. For systems collecting 5 samples, average the 4th and 5th highest sample values.

Lead & Copper	Date Sampled	Units	Action Level (AL)	No. of Samples	90th Percentile	Range of levels detected	Sites Over AL	Possible Sources
Copper	2024	ppm	1.3	20	0.147ppm	<0.05-0.286ppm	0	Erosion of natural deposits; leaching from wood preservatives; Corrosion of household plumbing systems
Lead	2024	ppb	15	20	<2ppb	<2-10ppb	0	Corrosion of household plumbing systems; Erosion of natural deposits

PFAS - short for 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. The Maryland Department of the Environment (MDE) conducted a PFAS monitoring program for Community Water Systems from 2020 to 2022. The results are available on MDE's website: https://mde.maryland.gov/PublicHealth/Pages/PFAS-Landing-Page.aspx. The Environmental Protection Agency (EPA) finalized regulations for 6 PFAS compounds in drinking water in April 2024. The MCLs for PFOA and PFOS are each 4.0 parts per trillion (ppt). The MCLs for PFNA, PFHxS, and HFPO-DA (GenX chemicals) are each 10 ppt. Additionally, a mixture of two or more of the following chemicals (PFNA, PFHxS, HFPO-DA, and PFBS) will be regulated with a Hazard Index of 1 (unitless) to determine if the combined levels of these PFAS pose a risk and require action.

As detailed below, one or more per- and polyfluoroalkyl substances (PFAS) from a single UCMR 5 sample event at the subject small public water system (PWS) were reported above a U.S. EPA Maximum Contaminant Level (MCL) value in a preliminary laboratory report (i.e., not yet reviewed by the EPA). In April 2024, the EPA announced the final National Primary Drinking Water Regulation (NPDWR) for six PFAS that are among the 29 PFAS being monitored in UCMR 5. The information in this report is for technical assistance only and does not supersede the NPDWR requirements in 40 CFR 141 and 40 CFR 142. Starting in April 2029, compliance with the PFAS NPDWR MCLs will be required and determined by calculating the running annual average of quarterly results for each sample point; therefore, UCMR 5 results do not indicate compliance or noncompliance with the MCLs. Results from a single SE may be used along with results from other SEs at this location to calculate an average for comparison with the MCLs. When calculating averages using UCMR 5 results, the average for locations with ground water sources is based on two semi-annual results and the average for locations with surface water sources is based on four quarterly results. The EPA is providing states with this notification in those cases where one or more PFAS from a single SE are reported above an individual MCL value (*i.e.*, for PFOS, PFOA, HFPO-DA [GenX chemicals], PFHxS, and PFNA). To share this information as early as possible, notification is not provided for single SE results above the PFAS Hazard Index (HI) MCL value, but relevant results are provided in this report for context, if available. PWSs may work with their state to submit their UCMR 5 data to meet some or all of the NPDWR's initial monitoring requirements, which must be completed by April 2027. For more information on the MCLs and requirements, visit: https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas

Small PWSs that participate in UCMR 5 and have an active SDWARS account, as recommended by the EPA, will receive an automated email when their results are posted to SDWARS. The preliminary results in this report and the results in SDWARS, when available, may differ as a result of EPA review. Results in SDWARS will be released to the public approximately quarterly via EPA's UCMR 5 Data Finder and webpage. PWSs are subject to Tier 3 Public Notification (PN) [40 CFR 141.207] and Consumer Confidence Report (CCR) [40 CFR 141.153(d)(7)] requirements. PWSs must notify their customers about the availability of UCMR results no later than 12 months after they are known. Community water systems must also report UCMR results in their annual CCR when contaminants are found. This notification gives additional time to determine if voluntary communication between the PWS and its customers (including PWSs that purchase water from another PWS) or other action (*e.g.*, associated with state requirements) is warranted. PN and CCR requirements apply to all UCMR results (including those for the six PFAS in the NPDWR) and are separate from the PN and CCR requirements for the PFAS NPDWR (effective starting in April 2027). To learn about grants that are available to assist states and territories with implementing PFAS testing and treatment at PWSs, visit:https://www.epa.gov/dwcapacity/emerging-contaminants-ec-small-or-disadvantaged-communities-grant-sdc .The EPA's free Water Technical Assistance Programs are also available to support communities to develop plans, build capacity, and access water infrastructure funding: https://www.epa.gov/water-infrastructure/water-technical-assistance-programs

Our water system has sampled for a series of contaminants as required by EPA's 5th Unregulated Contaminant Monitoring Rule (UCMR5). If you are interested in examining the results or would like more information, please contact Town Hall at 21 N. Main St., Boonsboro, Md 21713. The sample was collected on 2/12/2025 from Facility TP02 BOONSBORO - KEEDYSVILLE / Sample Point EP02 Finished Water Tap - WTP2 - Well 8 location for Sample Event SE1. The EPA's UCMR 5 small PWS contract laboratory identified the following concentrations for the six PFAS in the NPDWR: Re: BOONSBORO - KEEDYSVILLE (PWS ID MD0210002, Sample Kit ID 125643P) 21 NORTH MAIN STREET, BOONSBORO, MD 21713 (EPA Region 3) PWS Contact (if registered in SDWARS): Ronald Shumaker.

Regulated PFAS (EPA Method 533)	Preliminary Single Sample Event Result (µg/L, ppb)	(ng/L, ppt)*	EPA Maximum Contaminant Level (MCL) (ppt)*	UCMR 5 MRL (ppt)
PFOS	< MRL	< MRL	4.0	4
PFOA	0.0051	5.1	4.0	4
HFPO-DA (GenX)	< MRL	< MRL	10	5
PFHxS	< MRL	< MRL	10	3
PFNA	< MRL	< MRL	10	4
PFBS	0.0058	5.8	No individual MCL*	3
µg/L = parts per billion (ppb)			To convert µg/L to ng/L, multiply value by 1,000	
ng/L = parts per trillion (ppt)			UCMR 5 MRL = Minimum Reporting Level	

UCMR 5 samples from earlier SEs at this PWS that were provided via similar notifications from the EPA are listed below, as appropriate. An additional 23 PFAS (i.e., PFAS not in the NPDWR) are being monitored under UCMR 5; available preliminary results follow.

PWS ID MD0210002				Sample Kit ID 125643P
PFAS	CASRN	Preliminary Single Sample Event Result (µg/L, ppb)	(ng/L, ppt)	UCMR 5 MRL (ng/L, ppt)
EPA Method 533				
PFOS	1763-23-1	< MRL	< MRL	4
PFOA	335-67-1	0.0051	5.1	4
HFPO-DA (GenX)	13252-13-6	< MRL	< MRL	5
PFHxS	355-46-4	< MRL	< MRL	3
PFNA	375-95-1	< MRL	< MRL	4
PFBS	375-73-5	0.0058	5.8	3
PFBA	375-22-4	< MRL	< MRL	5
PFHxA	307-24-4	0.0074	7.4	3
PFDA	335-76-2	< MRL	< MRL	3
11Cl-PF3OUdS	763051-92-9	< MRL	< MRL	5
8:2 FTS	39108-34-4	< MRL	< MRL	5
4:2 FTS	757124-72-4	< MRL	< MRL	3
6:2 FTS	27619-97-2	< MRL	< MRL	5
ADONA	919005-14-4	< MRL	< MRL	3
9Cl-PF3ONS	756426-58-1	< MRL	< MRL	2
NFDHA	151772-58-6	< MRL	< MRL	20
PFEESA	113507-82-7	< MRL	< MRL	3
PFMPA	377-73-1	< MRL	< MRL	4
PFMBA	863090-89-5	< MRL	< MRL	3
PFDoA	307-55-1	< MRL	< MRL	3
PFHpS	375-92-8	< MRL	< MRL	3
PFHpA	375-85-9	< MRL	< MRL	3
PFPeS	2706-91-4	< MRL	< MRL	4
PFPeA	2706-90-3	0.0032	3.2	3
PFUnA	2058-94-8	< MRL	< MRL	2
EPA Method 537.1				
NEtFOSAA	2991-50-6	< MRL	< MRL	5
NMeFOSAA	2355-31-9	< MRL	< MRL	6
PFTA	376-06-7	< MRL	< MRL	8
PFTrDA	72629-94-8	< MRL	< MRL	7
µg/L = parts per billion (ppb)			CASRN = Chemical Abstracts Service Registry Number	
ng/L = parts per trillion (ppt)			To convert µg/L to ng/L, multiply value by 1,000	