

2024
2024 ANNUAL DRINKING WATER QUALITY REPORT FOR
KGCSA – COURTHOUSE

INTRODUCTION

We are pleased to present this Annual Drinking Water Quality Report (Consumer Confidence Report) for calendar year 2024 as required by the Safe Drinking Water Act (SDWA). This report is designed to inform you about the details of and quality of drinking water delivered by your water system. 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 Federal and State requirements administered by the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Health (VDH).

If you have questions about this report, 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 use the QR code or link on the right. It will direct you to an online form where you may ask any questions. Open your phone's camera, point it at the QR code and click on the link that appears.



Or please contact:
Inboden Environmental Services, Inc.
5790 Main Street
Mt. Jackson, VA 22842
(800) 648-1010

Este informe contiene información muy importante sobre la calidad de su agua potable. Por favor lea este informe o comuníquese con alguien que pueda traducir la información. Copias en español de este informe pueden ser hechas a petición.

GENERAL INFORMATION

The sources of drinking water (both tap and bottled) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or underground, 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. Water from surface sources is treated to make it safe to drink while groundwater may or may not have any treatment.

Contaminants that may be present in source water include:

- Microbial contaminants: include viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants: include 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: may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants: include 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.
- Radioactive contaminants: may be naturally occurring or can result from oil and gas production as well as mining activities.

In order to ensure that tap water is safe to drink, U. S. Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water in order to provide 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

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 / Centers for Disease Control (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

Courthouse water system consumers are provided with water from four ground water sources. Arnold's Corner Well #2, Purkin's Corner Well, Peppermill Well, and Cleydael Well supply water to the system. Your water is treated by disinfection. Disinfection involves the addition of chlorine or other disinfectant to kill dangerous bacteria and microorganisms that may be in the water.

The VDH conducted a source water assessment of our system during 2019. Our wells were determined to be of high susceptibility to contamination. Customers can pick up a copy of the source water assessment at the Service Authority Office located at 9207 King's Highway.

DEFINITIONS

In the tables for the report, 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:

Unit Description			
Term	Definition	Term	Definition
ppm	parts per million, or milligrams per liter (mg/L)	% positive samples/month	Percent of samples taken monthly that were positive
ppb	parts per billion, or micrograms per liter (µg/L)	NA	not applicable
pCi/L	picocuries per liter (a measure of radioactivity)	ND	Not detected
mrem/yr	millirems per year (a measure of radiation absorbed by the body)	NR	Monitoring not required, but recommended.
NTU	Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.		

Important Drinking Water Definitions			
Term	Definition	Term	Definition
MCLG	Maximum Contaminant Level Goal: 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.	MRDLG	Maximum residual disinfection level goal. 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.
MCL	Maximum Contaminant Level: 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.	MRDL	Maximum residual disinfectant level. 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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.	MNR	Monitored Not Regulated
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.	MPL	State Assigned Maximum Permissible Level
Variances and Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.	RAA	Running Annual Average is the average of analytical results for samples taken during the previous four calendar quarters.

CONTAMINANT MONITORING

We constantly monitor for various contaminants in the water supply to meet all Federal and State regulatory requirements. The tables that follow list contaminants that had some level of detection and a select few contaminants of consumer concern that were not detectable. Many other contaminants have been analyzed, but were not present or were below the detection limits of the lab equipment and may not be listed in these tables.

All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old.

TABLE OF DETECTED CONTAMINANTS

Contaminant	Unit of Measurement	MCLG	MCL	Level Detected	Sample Date	Violation	Typical Source
Microbiological							

At least five bacteriological samples are collected from the distribution system each month .							
Total Coliform Bacteria	Present or Absent	0	Presence of coliform bacteria in >1 sample per month	0	Monthly	No	Naturally present in the environment.
Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the waterworks.							

Contaminants	MCLG	MCL	Level Detected	Range		Sample Date	Violation	Typical Source						
				Low	High									
Disinfection By-Products														
(There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants)														
TTHMs [Total Trihalomethanes] (ppb)	-	80	<u>2.7</u>			2024	No	By-product of drinking water disinfection.						
Inorganic Contaminants														
Fluoride (ppm)	-	-	<u>1.13</u>	0.65	1.13	2024	No	Erosion of natural deposits.						
Nitrate [measured as Nitrogen] (ppm)	10	10	ND			2024	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.						
Lead & Copper														
Copper (ppm)	1.3	1.3 (AL)	0.24† 90 th Percentile	ND	0.277	2022	No (AL Exceedance)	Corrosion of household plumbing systems; Erosion of natural deposits.						
Lead (ppb)	0.0	15 (AL)	ND† 90 th Percentile	ND	2.82	2022	No (AL Exceedance)	Corrosion of household plumbing systems; Erosion of natural deposits.						
†The total number of samples collected during the sample year that exceeded the AL was 0.														
Radioactive Contaminants														
Alpha emitters (pCi/L)	0	15	<u>7.4</u>			2024	No	Erosion of natural deposits.						
Beta emitters (pCi/L)	0	50	<u>1.1</u>			2024	No	Decay of natural and man-made deposits. The EPA considers 50 pCi/L to be the level of concern for Beta particles.						
Radium (combined 226/228) (pCi/L)	0	5	<u>0.6</u>			2024	No	Erosion of natural deposits.						

Contaminants	MCLG	MCL	Level Detected	Sample Date	Violation	Typical Source
Optional (Non-Regulated) Contaminants						
Sodium (ppm)*	-	-	69.3 (range: 56.3 - 69.3)	2024	No	Erosion of natural deposits; Leaching; De-icing salt runoff; Water softeners.
*There is presently no established standard for sodium in drinking water. An EPA advisory recommends water containing 30 to 60 mg/L should not be used as drinking water due to esthetics such as taste and color. Water containing more than 20 mg/L should not be used by persons who physician has placed them on severely restricted sodium diets.						

Disinfectant	MCLG	MCL	Level Found (Range)	Sample Date	Violation	Typical Source
Disinfection Residual						

Disinfectant	MCLG	MCL	Level Found (Range)	Sample Date	Violation	Typical Source
Chlorine (ppm)	4 (MRDLG)	4 (MRDL)	7 Qtrs RAA: 1.14 Range: 0.28 - 2.35	Monthly	No	Water additive used to control microbes.

VIOLATION INFORMATION

We are pleased to report that the **KGCSA – Courthouse** did not have any official violations during **2024**.

PFAS (PER-AND POLYFLUOROALKYL SUBSTANCES)

Per- and polyfluoroalkyl substances, also called “PFAS,” are a group of manufactured chemicals that have been used in industry and consumer products since the 1940s. PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, stain-resistant carpets and fabrics, and firefighting foam, as well as in certain manufacturing processes. There are thousands of different PFAS. The domestic production or use of some PFAS (like PFOA and PFOS) has been largely phased out but others continue to be used. PFAS tend to break down extremely slowly in the environment and can build up in people, animals, and the environment over time. PFAS have been found in water, air, and soil across the nation and around the globe. Because of this, PFAS can end up in the water sources that communities rely on for drinking water.

The Environmental Protection Agency (EPA) has established legally enforceable levels for six PFAS in drinking water: PFOA, PFOS, PFHxS, PFNA, and HFPO-DO and a mixture of two or more of PFHxS, PFNA, HFPO-DA, and PFBS known as the Hazards Index. Initial PFAS baseline testing must be completed by the year 2027 to establish ongoing monitoring standards at each facility.

During the past calendar year, **KGCSA – Courthouse** had UCMR5 PFAS testing completed for all active entry points in May and November 2024. **From the testing done in 2024, there were no MCL, or trigger exceedances detected.** King George County Service Authority is continuing to work with Inboden Environmental Services to complete the required initial PFAS baseline monitoring by 2027.

ADDITIONAL HEALTH INFORMATION

Certain contaminants (such as radon, arsenic, nitrate, and lead), if present in your drinking water, may be of special concern to consumers. If any of those contaminants are present, health information is provided below to inform you about them.

Lead

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. **KGCSA – Courthouse** 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 **Inboden Environmental Services at (800) 648-1010**. 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>.

Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.

Lead Service Line Inventory

In 2024, we developed a service line inventory as required by the EPA Lead and Copper Rule Revisions. Most of our service lines are not known to be made of lead or lead containing materials with most lines being plastic and some having copper, galvanized, or unknown material lines. Please visit the link listed below to view further details on the lead service line inventory that was conducted at the **KGCSA – Courthouse**. **If you have any questions, please contact the King George County Service authority at (540) 775-2746.**

<https://www.kinggeorgecountyva.gov/1165/Lead-Copper-Revised-Rule>

This Drinking Water Quality Report was prepared by:

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Assistance was provided by the Virginia Department of Health, Office of Drinking Water, Richmond Field Office