

2024 Annual Drinking Water Quality Report

Of the
Emporia Filtration Works
PWSID: 3595250

INTRODUCTION

This Annual Drinking Water Quality Report for the calendar year 2024 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 your water supply. The quality of your drinking water must meet state and federal requirements as administered by the Virginia Department of Health (VDH).

If you have questions about this report, please contact:

Jeffery Davis, Emporia Filtration Works; 434 634-2544

If you would like 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. William Johnson, City Manager; 434 634-3332 or Melvin Prince, Public Utilities Director; 434 634-4500

The times and location of regularly scheduled board meetings are as follows:

The first and third Tuesday of every month at the City Council Chambers at 6:30 PM.

For information pertaining how you may participate in decisions regarding your water supply you may contact:

Melvin Prince
Emporia Public Utilities
201 South Main Street Emporia
Va. 23847 434-634-4500.

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 human activity.

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 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 stormwater runoff, and septic system;
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

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 Safe Drinking Water Hotline (800-426-4791).

MCL's are set at very stringent levels by the U.S. Environmental Protection Agency. 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.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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).

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. The U.S. Food and Drug Administration regulations establish limits for contaminants in the bottled water which must provide the same protection for public health.

SOURCE (S) and TREATMENT OF YOUR DRINKING WATER

The source of your drinking water is surface water:

The City of Emporia is served by one reservoir that is 220 Acres in size. The Meherrin River supplies the reservoir.

Is there any treatment of your drinking water supply? (X) Yes () No If yes, it is described below:

A Pre-oxidant of Potassium Permanganate is added to the Raw water then followed by coagulants to cause a flocculation. As flocculation begins the water travels across large basins where sedimentation occurs, the larger particles fall out and the water continues on to the membrane filters where the remaining suspended particles are removed. After the filters, the water is treated further to remove any excess Iron and Manganese by filtration through a special filter and is then chlorinated to provide chlorine residual for the distribution system. Caustic is then added to correct the pH of the water. Fluoride and corrosion inhibitor are also added after the membrane filters.

The Virginia Department of Health conducted a Source Water Assessment of the City of Emporia Waterworks in 2001. The reservoir was 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, and Potential Sources of Contamination. Best Management Practices utilized at Land Use Activity sites in Zone I and documentation of any known contamination within the last five years, Susceptibility Explanation Charts and Definitions of Key Terms. The report is available by contacting Melvin Prince at the Public Utilities Office at 434-634-4500.

WATER QUALITY RESULTS

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements.

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The EPA requires that Table I reflect monitoring results for the period of January 1st 2020 through December 31st, 2024. 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 data, though accurate, may be more than one year old. Only the most recent sample results from the prescribed period are reported. 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.

DEFINITIONS:

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. 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:

- *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 (µg/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)* – 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 (AL)* - 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 contaminant in drinking water.
- *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 no known or expected risk to health. MCLGs allow for a margin of safety.
- *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.
- *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 contamination.
- *Level 1 Assessment* - An evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment.
- *Level 2 Assessment* - An evaluation to identify the possible presence of sanitary defects, defects in distribution system coliform monitoring practices, and (when possible) the likely reason that the system triggered the assessment in a more comprehensive investigation than a Level 1 assessment.
- *Sanitary Defect* - A defect that could provide a pathway of entry for microbial contamination into the distribution system or that is indicative of a failure or imminent failure in a barrier that is already in place.

WATER QUALITY RESULTS (Detected contaminants only)

Contaminant	MCLG	MCL	Level Found	Range	Violation	Date of Sample	Typical Source of Contamination
Turbidity	N/A	TT=1.0 NTU Max < 0.3 NTU 100% of the time	0.3 NTU 100%	02-08	No	2024	Soil runoff
Fluoride (ppm)	4.0	4.0	0.66	<0.2–0.82	No	2024	Water additives that promote strong teeth.
Total Chlorine (ppm)	MRDLG= 4.0	MRDL= 4.0	3.024	2.12 – 3.91	No	2024	Water additive used to control microbes
Barium (mg/l)	2	2	0.21	NA	No	2024	Erosion of natural deposits, discharge of drilling wastes, discharge from metal refineries.
Haloacetic acids (ppb)	N/A	60	49.96	11 - 45	No	2024	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	N/A	80	61.5	14 - 56	No	2024	By-product of drinking water disinfection.
Combined Radium (pCi/L)	0	5	0.2	NA	No	2021	Erosion of natural deposits
Gross Beta (pCi/L)	0	50*	2.2	NA	No	2021	Erosion of natural and man-made deposits

A note about fluoride in drinking water: Some people who drink water containing fluoride in excess of the MCL (4 ppm) over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children’s teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

A note about lead in drinking 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. The City of Emporia 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 The City of Emporia – Jeffrey Davis (434) 634-2544. 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.

The City of Emporia recently conducted a service line inventory. A copy of the inventory is available for public viewing at the City of Emporia's Treasurer's Office.

LEAD AND COPPER CONTAMINANTS

CONTAMINANT (units)	MCLG	Action Level	Level Detected	Range	# of samples above AL	Date of Sample	Typical Source of Contamination
Copper (ppm)	1.3	1.3	0.074	ND – 0.049	0	2023	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching of wood preservatives.
Lead (ppb)	0	15	ND	ND – 3.14	0	2023	Corrosion of household plumbing; Erosion of natural deposits

Additional Nonregulated Monitoring Results

Analyte (units)	Level Detected	Range	Date of Sample	Typical Source of Contamination
Sodium (ppm)	16.3	15.4-17	2023-2024	Sodium occurs naturally in groundwater. However, sources such as road salt, water softeners, natural underground salt deposits, pollution from septic systems as well as saltwater intrusion due to proximity to the ocean are often causes of elevated levels in drinking water supplies.

A note about sodium in drinking water. Sodium was detected in your water sample. There is presently no established standard for sodium in drinking water. Water containing more than 270 mg/l of sodium should not be used as drinking water by those persons whose physician has placed them on moderately restricted sodium diets. Water containing more than 20 mg/l should not be used as drinking water by those persons whose physician has placed them on severely restricted sodium diets.

Violations:

Our water system recently violated some drinking water standards. Although this is not an emergency, as our customers, you have a right to know what happened, what you should do, and what we are doing to correct this situation.

During the June 1st through September 30th, 2024 monitoring period, our waterworks failed to conduct the lead and copper tap monitoring under the Lead and Copper Rule (LCR). This violation will be resolved when we collect our next round of samples beginning in June 1st, 2025. For more information, contact Jeffrey Davis at (434) 634-2544 or 1521 Wiggins Road, Emporia, VA 23847.

*A hard copy of this report can be acquired at the Treasurer's Office or viewed on the City Government Channel 17.
There will be no hard copy mailed.*

Este informe contiene informacion muy importante sobre su agua de beber. Traduzcalo o hable con alguien que lo entienda bien.