2021 Annual Drinking Water Quality Report

Fork Union Sanitary District PWSID# 2065300

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2021 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 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. Calvin Hickman, Director of Public Works, (434) 591-1925.

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

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 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 chemical 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 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 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).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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).

SOURCE(S) and TREATMENT OF YOUR DRINKING WATER

Your drinking water is groundwater obtained from six (6) drilled wells treated with chlorine for disinfection. Additional treatment is provided to reduce the natural acidity of the groundwater and make it non-corrosive to our plumbing system. Filtration treatment is also provided at several of our largest wells to control naturally occurring iron and manganese in those well sources.

The Virginia Department of Health conducted a source water assessment of our system during 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 a 1 mile radius of the source(s). The report is available by contacting the system representative at the phone number or address given elsewhere in this drinking water quality report.

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 1st to December 31st, 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 no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal or MRDLG: the level of 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.

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.

Level 1 Assessment - 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 very detailed study of the waterworks 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.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.

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

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The tables below show the results of any detected regulated contaminants during the period of January 1st to December 31st, 2021. If the result of an analysis was less than the detection threshold, the analysis may not be reported in the tables below.

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 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.

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 *E. coli* 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	2.14 Range: ND – 2.14	N	2021	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (mg/l)	4	4	ND	N	2019 & 2020	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Barium (mg/l)	2	2	0.019 Range: ND – 0.019	N	2019 & 2020	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits
Sodium (mg/l)	NA	NA	41.3 Range: 3.24– 41.3	N	2019 & 2020	Erosion of natural deposits; de-icing salt runoff; water softeners
*Gross Alpha, Including Radon & Uranium (pCi/l)	0	15	5.2 Range: 0.4 - 5.2	N	2021	Erosion of Natural Deposits
Beta Particle and Photon Radioactivity (pCi/l)	0	50	4.4 Range: ND - 4.4	N	2021	Decay of Natural and Man Made Deposits
*Combined Radium (pCi/l)	0	5	3.9 Range: 0.4 - 3.9	N	2021	Erosion of Natural Deposits

*Analysis frequency for radiological contaminants is every six 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	5.76	No	0	2019	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	1.3	AL = 1.3	0.57	No	0	2019	Corrosion of household plumbing systems; 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	0.71 Range: 0.40 – 1.00	N	2021	Water additive used to control microbes

Organic Contaminants

Contaminant (units)	MCLG	MCL	Level Found	Violation (Y/N)	Sampling Year	Typical Source of Contamination
TTHMs – Total Trihalomethanes (ppb)	NA	80	3.3	N	2021	By-product of drinking water chlorination
HAA5 - Haloacetic Acids (ppb)	NA	60	1.2	N	2021	By-product of drinking water chlorination

Many other contaminants were analyzed for but were either not detected or are non-regulated contaminants and are excluded from the tables above. If you want additional information on the other contaminants analyzed please contact: Mr. Calvin Hickman, Director of Public Works, (434) 591-1925.

VIOLATION INFORMATION

Did any PMCL or TT violation occur during the year? ( ) Yes (X) No
Did any monitoring, reporting, or other violations occur during the year? (X) Yes ( ) No

1) We received one (1) reliability violation for failing to adequately maintain infrastructure and greensand filtration treatment in accordance with §12 VAC 5-590-360 of the Waterworks Regulations. Fluvanna County and the Office of Drinking Water agreed upon a schedule of required corrective actions including the rehabilitation of wells, replacement of filter media, and ensuring the accuracy of water testing equipment. Fork Union Sanitary District is on schedule to complete all of the required actions.

ADDITIONAL HEALTH INFORMATION

Fork Union Sanitary District has experienced levels of iron and manganese in the drinking water above the Secondary Maximum Contaminant Level (SMCL) established by the EPA. Secondary contaminants are contaminants that may alter taste, odor, and color of drinking water but are not considered to present a risk to human health. We are working to optimize our treatment system to reduce the levels of these secondary contaminants in your drinking water.

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. Fork Union Sanitary District is responsible for providing high quality drinking water, 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 two 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 (800-426-4791) or at *http://www.epa.gov/safewater/lead.*

This Drinking Water Quality Report was prepared by the Fork Union Sanitary District with the assistance and approval of the Virginia Department of Health. Please call if you have questions.

Signature: _____

Date: May 20 2022