

Annual Drinking Water Quality Report 2021

Somerset County Sanitary District, Inc.

Princess Anne Subdistrict

PWSID 0190002

We are pleased to present to you the Annual Quality Water Report for the period of January 1, 2021 to December 31, 2021. This report is designed to inform you about the quality water we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water.

We are pleased to report that our drinking water is safe and meets federal and state requirements. The following report is provided in compliance with federal regulations and outlines the quality of our drinking water. If you have any questions about this report, please contact Sanitary District at 410-651-3831. We want our valued customers to be informed about their water utility and to understand the efforts we make to continually improve the water treatment process and protect our water resources. If you want to learn more, please attend any regularly scheduled meeting held on the second Thursday of each month at 1 p.m. in the Somerset County Office Complex, Princess Anne, Maryland. Please go to our website to confirm dates and times of meetings at www.somersetmd.us then select *Agencies* and then select *Sanitary District*.

Sources of drinking water (both tap water and bottled water) include rivers, 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 from the presence of animals or human activity. Our water sources are: Well # 3 (Rest Stop) at a depth of 240 feet, Well # 4 (Irving Avenue) at a depth of 210 feet, Well # 5 (Crisfield Lane) at a depth of 210 feet, Well # 6 (Abbey Lane) at a depth of 191 feet, Well # 7 (Industrial Park) at a depth of 240 feet Well # 10 (Hawk Lane) at a depth of 194 feet, Well # 8 (Ridge Road) at a depth of 191 feet, 6 inches and Well # 11 (Loretto Road) at a depth of 240 feet. These wells draw from the Manokin Aquifer, which is treated and pumped into our water distribution system. Well # 9 (Washington High) is 1,470 feet deep and draws from the Patapsco Aquifer. A source water assessment was performed by the Maryland Department of the Environment (MDE) and is available on their website, mde.maryland.gov.

All 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 (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

Contaminants that may be present in source water include the following. *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 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 chemical, which are by-products of industrial processes and petroleum production. Organic chemical contaminants may also come from gas stations, urban storm water runoff and septic systems. *Radioactive contaminants*, which maybe naturally occurring or be the result of oil and gas production and/or mining activities.

In order to ensure tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by the public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the established limits for a lifetime to have a one-in-a-million chance of having the described health effect.

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/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Lead if present at elevated levels can cause serious health problems, especially for pregnant women and young children. Lead in the drinking water is primarily from materials and components associated with service lines and home plumbing. The Somerset County Sanitary District Inc. 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 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking 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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

The samples monitored for **Fluoride did not exceed the Maximum Contaminant Level (MCL)** for fluoride in the Drinking Water. Samples collected in 2021 measured in a range of 0.28 mg/l to 1.40 mg/l. The Sanitary District is providing the following information regarding the potential effects of consuming water containing fluoride in excess of the standards as a customer service. The MCLG is based on aesthetics and is not a health concern.

Federal regulations require that Fluoride, which occurs naturally in your water, not exceed a concentration of 4.0 mg/l in the drinking water. This is an enforceable standard called a Maximum Contaminant Level or MCL, and it has been established to protect the public health. Exposure to drinking water levels above 4.0 mg/l for many years may result in some cases in crippling skeletal fluorosis, which is a serious bone disorder. Federal law requires that we notify you when monitoring indicates that the fluoride in your drinking water exceeds the Secondary Maximum Contaminant Level (SMCL) of 2.0 mg/l. This is intended to alert families about dental problems that might affect children under nine years of age. The fluoride concentration of your water exceeds this guideline.

Fluoride in children's drinking water at levels of approximately 1 mg/l reduces the number of dental cavities. However, some children exposed to levels of fluoride greater than about 2.0 mg/l may develop dental fluorosis. Dental fluorosis in its moderate and severe forms is a brown staining and/or pitting of the permanent teeth. Because dental fluorosis occurs only when developing teeth (before they erupt from the gums) are exposed to elevated Fluoride levels, households without children are not expected to be affected by this level of fluoride. Children under age nine should be provided with alternative sources of drinking water or water that has been treated to remove Fluoride to avoid the possibility of staining and pitting on their teeth. You may also want to contact your dentist about the proper use by young children of fluoride containing products. Your water supplier can lower the concentrations of the fluoride in the water so that you will still receive the benefits of cavity prevention while the possibility of staining and pitting is minimized. Removal of fluoride may significantly increase your water cost. Treatment systems are commercially available for home use. Information on such systems is available by calling the Sanitary District or contacting your local hardware or home products dealer.

Polyfluoroalkyl substances (PFAS) are 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/water-resistant fabrics, stain/water-resistant carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams. These uses of Polyfluoroalkyl substances (PFAS) have led to Polyfluoroalkyl substances (PFAS) entering our environment, where they have been measured by several states in soil, surface water,

groundwater and seafood. Some Polyfluoroalkyl substances (PFAS) can last a long time in the environment and in the human body and can accumulate in the food chain.

Currently, there are no federal regulations or Maximum Contaminant Level (MCL) for Polyfluoroalkyl substances (PFAS) in drinking water. The U.S. Environmental Protection Agency has issued a Health Advisory Level of 70 parts per trillion (ppt) for the sum of the Polyfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) concentrations in drinking water. While not an enforceable regulatory standard, when followed, the U.S. Environmental Protection Agency Health Advisory Level does provide drinking water customers, even the most sensitive populations, with a margin of protection from lifetime exposure from the drinking water to two (2) of the more predominately used Polyfluoroalkyl substances (PFAS); Polyfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS). The Maryland Department of the Environment anticipates that the U.S. Environmental Protection Agency will establish an MCL for Polyfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) in the near future. This would entail additional monitoring for Polyfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS).

In 2020, the Maryland Department of the Environment initiated a Polyfluoroalkyl substances (PFAS) monitoring program.

The combined Polyfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) concentration from all samples taken from the Princess Anne water system in 2021 were below the detection limit with the exception of Well # 7 - Industrial Park, which had a level of 2.99 ppt.

For additional information about Polyfluoroalkyl substances (PFAS) go to the Maryland Department of the Environment website, mde.maryland.gov.

Definitions

In this table 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:

Non-Detects (ND) - laboratory analysis indicates that the constituent 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.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Action Level (A.L.) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) - The "Maximum Allowed" (MCL) is 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 (MCLG) - The "Goal" (MCLG) is 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 (MRDL) - The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant to the drinking water is necessary for control microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The "Goal" (MRDLG) is 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.

Millirems per year (mrem/yr and/or mrem) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

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.

n/a - not applicable

ppb - micrograms per liter or parts per billion or one ounce in 7,350,000 gallons of water

ppm - milligrams per liter or parts per million or one ounce in 7,350 gallons of water

Average - (Avg.) - Regulatory compliance with some MCL's are based on running annual average of monthly samples.

Definitions (continued)

Level 1 Assessment – A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why coliform bacteria have been found in a water system.

Level 2 Assessment - A Level 1 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 a water system on multiple occasions.

LRAA – Locational Running Annual Average – Regulatory compliance calculated for TTHMs and HAA5s based on running annual average samples taken at a specific site for TTHMs and HAA5s.

The Somerset County Sanitary District, Inc. and the Maryland Department of the Environment routinely monitor for contaminants in your drinking water according to Federal and State laws. This table shows the results of that monitoring.

Detected Contaminants Not in Violation of Limits: Princess Anne Water System

Lead and Copper	Level Detected 90th percentile	Unit of Measure	Action Level (AL)	MCLG	Likely Source of Contamination
1. Lead Sampled 08/26/2020	< 2.0	ppb	15	0	Corrosion of household plumbing systems and/or erosion of natural deposits
2. Copper Sampled 08/26/2020	0.14	ppm	1.3	1.3	Corrosion of household plumbing systems and/or erosion of natural deposits. Leaching from wood preservatives.
Disinfectants and Disinfectant Byproducts	Level Detected	Unit of Measure	MRDL or MCL	MRDLG or MCL	Likely Source of Contamination
1. Chlorine Sampled 2021	0.4 – 1.0 Highest Level 1.0	ppm	MRDL 4	MRDLG 4	Water additive to control microbes
2. Total Trihalomethanes (TTHM) Sampled 2021	16.6 – 19.5 Highest Level 19.5	ppb	MCL 80	MCLG No Goal for the total	By-product of disinfection using chlorine when natural and/or manmade organic compounds are present in drinking water.
3. Total Haloacetic Acids (HAA5) Sampled 2021	5.8 – 7.2 Highest Level 7.2	ppb	MCL 60	MCLG No Goal for the total	By-product of disinfection using chlorine when natural and/or manmade organic compounds are present in drinking water.
Radioactive Contaminants	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Beta/Photon Emitters (Gross Beta) Sampled 2021	0 - 4.7 Highest Level 4.7	pCi/L	50	0	Decay of natural and man-made deposits
2. Combined Radium 226/228 Sampled 10/19/2016	0.9 – 0.9 Highest Level 0.9	pCi/L	5	0	Erosion of Natural Deposits
Inorganic Contaminants	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Barium Sampled 12/18/2019	0.0015 - 0.0015 Highest Level 0.0015	ppm	2	2	Discharge from drilling waste. Discharge from Metal finishing and processing
2. Fluoride Sampled 2021	0.28 – 1.40 Highest Level 1.40	ppm	4.0	4.0	Erosion on natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Detected Contaminants Not in Violation of Limits: Princess Anne Water System

Inorganic Contaminants	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
3. Selenium Sampled 2019	0.0 – 2.0 Highest Level 2.0	ppb	50	50	Erosion of geological and natural deposits. Discharge from petroleum and metals refineries.
4. Arsenic Sampled 2019	0.0 – 1.5 Highest Level 1.5	ppb	10	0	Erosion of natural deposits; Runoff from orchards; runoff from glass and electronics production wastes.
5. Mercury Sampled 2019	0.0 – 0.084 Highest Level 0.084	ppb	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; runoff from cropland.
6. Chromium Sampled 2019	0.0 – 3.5 Highest Level 3.5	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.
6. Chromium Sampled 2019	0.0 – 3.5 Highest Level 3.5	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.
7. Nitrate Sampled 2021	<1.0 Highest Level <1.0	mg/l	10	10	Runoff from fertilizer use Leaching from Septic Tanks, Sewage Erosion of Natural Deposits

Unregulated Contaminants Detected by Monitoring: Princess Anne Water System

Inorganic Contaminants	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Nickel Sampled 2019	0.0 – 5.0 Highest Level 5.0	ppb	N/A	N/A	Erosion of natural deposits: Discharge from metal factories and metal plating facilities
Polyfluoroalkyl substances	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
Polyfluorooctanoic Acid (PFOA) & Perfluorooctane Sulfonate (PFOS) 2021	0.0 – 2.99 Highest Level 2.99	ppt	N/A	USEPA Health Advisory Level 70 ppt	Waste from the use and manufacture of products including stain/water-resistant fabrics, stain/water-carpeting, cleaning products, paints, cookware, food packaging and fire-fighting foams.

The Sanitary District monitors the drinking water monthly for bacterial contamination using Total and Fecal Coliform. No Bacterial Contamination was detected in the year 2021.

The Sanitary District monitored for 39 Synthetic Organic Compounds (SOCs), which includes pesticides, at the following wells in 2021: Well # 10 - Hawk Lane and Well #11 - Loretto Road.

No Synthetic Organic Compounds were found.

The Sanitary District monitors the drinking water daily for pH, Free Chlorine, Total Chlorine, Total Iron and Total Phosphate to ensure water quality.

The Sanitary District and the Maryland Department of the Environment have monitored for the following groups of contaminants within the last five years: Volatile Organic Compounds, Synthetic Organic Compounds and Metals. Previous Annual Quality Reports containing the results of these monitoring may be obtained upon request.

The EPA and MDE have determined that your water IS SAFE.