

# ***Annual Drinking Water Quality Report***

## **Somerset County Sanitary District, Inc.**

### **Princess Anne Subdistrict**

#### **PWSID 0190002**

We are pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. 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.

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 will be provided annually. This report outlines the quality of our drinking water and what that quality means.

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).

If you have any questions about this report, please contact Sanitary District Manager at 410-651-3831. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any regularly scheduled meeting held on the second and fourth Thursdays of each month at 2 p.m. in the Somerset County Office Complex, Princess Anne, Maryland.

The Somerset County Sanitary District, Inc. routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2016. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

#### **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.

***Millirems per year (mrem/yr)*** - 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.

**Non-Detected Contaminants:** Following is a list of potential drinking water substances that the Sanitary District is required to test for, but which have not been detected in the water supply in the past year. .

Monitored but not found at the Point of Entry for the following Princess Wells: Irving Ave., Industrial Park, Rest Stop, Ridge Road, Crisfield Lane, Hickory Road

1074	Antimony	1075	Beryllium	1015	Cadmium	1020	Chromium
1035	Mercury	1036	Nickel	1085	Thallium		

Monitored but not found at the Point of Entry for the following Princess Wells: Irving Ave., Industrial Park, Washington High, Rest Stop, Ridge Road, Crisfield Lane, Hawk Lane and Loretto Road

1041 Nitrate

Monitored but not found at the Point of Entry for the following Princess Wells: Irving Ave., Rest Stop

1010 Barium

Monitored but not found at the Point of Entry for the following Princess Wells: Irving Ave, Ridge Road, Crisfield Lane

1045 Selenium

Monitored but not found at the following well Points of Entry: Crisfield Lane, Irving Ave. and Industrial Park

2051	Alachlor	2050	Atrazine	2037	Simazine	2306	Benzo(a)pyrene
2274	Hexachlorobenzene	2042	Hexachlorocyclopentadiene	2076	Butachlor		
2045	Metolchlor	2595	Metribuzin	2959	Chlordane	2065	Heptachlor
2067	Heptachlor epoxide	2010	Lindane	2015	Methoxychlor	2020	Toxaphene
2005	Endrin	2356	Aldrin	2070	Dieldrin	2077	Propachlor
2035	Di(ethylhexyl)adipate	2039	Di(ethylhexyl)phthalate				

**Detected Contaminants:** In addition to these undetected substances, the Sanitary District did find some regulated substances present in the water system. These substances are shown below, along with MCL and MCLG for each one detected.

**Princess Anne Water System**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Total Trihalomethanes	19.1 – 131.3	ppb	80	N/A	By-product of disinfection using chlorine when natural and/or manmade organic compounds are present in drinking water. Concentration can be dependent on ambient temperature.
2. Total Haloacetic Acids	7.1 – 50.9	ppb	60	N/A	By-product of disinfection using chlorine when natural and/or manmade organic compounds present in drinking water. Concentration can be dependent on ambient temperature.
3. Beta/Photon emitters	5.7	ppb			Decay of natural and man-made deposits
4. Combined Radium	0.9	ppb			Erosion of natural deposits

**Plant ID: Rest Stop #3**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.38	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Sodium 1052	179	mg/l	-	-	Erosion of geological and natural salt
3. Selenium 1045	0.003	mg/l	0.05	0.05	Erosion of geological and natural deposits

**Plant ID: Irving Ave. # 4**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.31	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

**Plant ID: Crisfield Lane # 5**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.32	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Sodium 1052	154	mg/l	-	-	Erosion of geological and natural salt
3. Barium 1010	0.011	mg/l	2	2	Discharge from drilling waste Discharge from metal finishing and processing

**Plant ID: Industrial Park / Washington High Point of Entry**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.34 - 0.36	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Sodium 1052	190	mg/l	-	-	Erosion of geological and natural salt

**Plant ID: Hickory Road # 6**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.26	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Nitrate 1040	0.67	mg/l	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits
3. Sodium 1052	128	mg/l	-	-	Erosion of geological and natural salt
4. Barium 1010	0.005	mg/l	2	2	Discharge from drilling waste Discharge from metal finishing and processing

**Plant ID: Industrial Park #7**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.37	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Sodium 1052	244	mg/l	-	-	Erosion of geological and natural salt
3. Barium 1010	0.0079	mg/l	2	2	Discharge from drilling waste Discharge from metal finishing and processing
4. Selenium 1045	0.0021	mg/l	0.05	0.05	Erosion of geological and natural deposits

**Plant ID: Ridge Road #8**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.27	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Barium 1010	0.006	mg/l	2	2	Discharge from drilling waste Discharge from metal finishing and processing
3. Sodium 1052	123	mg/l	-	-	Erosion of geological and natural salt

**Plant ID: Washington High #9**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	2.95	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

**Plant ID: Hawk Lane #10**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.28	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

**Plant ID: Loretta Road # 11**

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.23	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

The samples monitored for Fluoride did not exceed either the Maximum Contaminant Level (MCL) or the Secondary Maximum Contaminant Level (SMCL) for fluoride in the Drinking Water. Samples collected in 2016 measured in a range of 0.23 mg/l to 2.95 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 SMCL 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 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.

If present, elevated levels of lead 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 Sanitary District monitors the drinking water regularly for bacterial contamination using Total and Fecal Coliform and E.Coli as indicator bacteria. No Bacterial Contamination was detected in the year 2016. The Sanitary District monitors the drinking water regularly for pH, Free Chlorine, Total Chlorine, Total Iron, Ortho-Phosphate 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: Synthetic Organic Compounds, Volatile Organic Compounds, Metals and Radionuclides. Reports containing the results of these monitoring may be obtained upon request.

Our system had an exceedance of the Maximum Contaminant Levels for Total Trihalomethanes in 2016. This was not a violation of the MDE/EPA MCL because the MCL is based on an annual average and the exceedance was isolated to two samples of many taken to monitor Total Trihalomethanes in the Princess Anne Water System. The high level was not a system wide concern has been controlled with the reduction of the background Chlorine concentration and regular flushing of the specific section of the water system affected. Total Trihalomethanes are a health concern due the carcinogenic nature of the compounds.

The Princess Anne Water System was also cited for a Monitoring and Reporting violation for Nitrate at the Crisfield Lane Well. The well was sampled for Nitrate and was in compliance with the MCL however when the sample was reported it was reported using an old code to identify the well and sample and therefore was not recognized by the Maryland Department of the Environment. Corrected paper was filed and the violation has been mitigated.

We have learned through our monitoring and testing that some constituents have been detected. **The EPA and MDE has determined that your water IS SAFE** at these levels.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. 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 Safe Drinking Water Hotline at 1-800-426-4791.

MCL's are set at very stringent levels. 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 MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Thank you for allowing us to continue providing your family with clean, quality water this year.