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 We11 #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, Robert C. Street, Jr. 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. They are normally held on the second and fourth Thursdays of each month at 2 p.m. in the Sanitary District Conference Room, Room 217, 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 1st to December 31st, 2012. 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.

Definitions (continued)

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. We are only required to provide information on those substances detected in the finished water supply, but are providing a list of the non-detected contaminants in each well in order to better inform our customers about the extent of testing that is done to their water supply.

Contaminant	Contaminant	Contaminant
1040 Nitrate – All Well Locations	1010 Barium - Hawk Lane # 10	1045 Selenium - Hawk Lane #10
2941 Chloroform - Loretto Road #11	2943 Bromodichloromethane - Loretto Road # 11	

Loretto Road Well # 11 and Hawk Lane Well #10

1074	Antimony	1005	Arsenic	1015	Cadmium	1020	Chromium
1035	Mercury	1036	Nickel	1075	Beryllium	1085	Thallium
1041	Nitrite	2030	P-Isopropyltoluene	2210	Chloromethane	2212	Dichlorodifluoromethane
2214	Bromomethane	2216	Chloroethane	2218	Trichlorofluoromethane	2246	Hexachlorobutadiene
2248	Naphthalene	2251	Methyl-Tert-Butyl-Ether (MTBE)			2378	1,2,4-Trichlorobenzene
2380	cis-1,2-Dichloroethylene	2408	Dibromometane	2410	1,1-Dichloropropene	2412	1,3-Dichloropropane
2413	1,3-Dichloropropene	2414	1,2,3-Trichloropropane	2416	2,2-Dichloropropane	2418	1,2,4-Trimethybenzene
2420	1,2,3-Trichlorobenzene	2422	N-Butylbenzene	2424	1,3,5-Trimethylbenzene	2426	Tert-Butylbenzene
2428	Sec-Butylbenzene	2430	Bromochloromethane	2942	Bromoform	2944	Dibromochloromethane
2955	Xylenes – total	2962	p-Xylene	2964	Dichloromethane (Methylene Chloride		
2965	o–Chlorotoluene	2966	p-Chlorotoluene	2967	m-Dichlorobenzene	2968	o-Dichlorobenzene
2969	p-Dichlorobenzene	2976	Vinyl Chloride	2977	1,1-Dichloroethylene	2978	1,1-Dichloroethane
2979	trans-1,2-Dichloroethylene	2980	1,2-Dichloroethane	2981	1,1,1-Trichloroethane	2982	Carbon Tetrachloride
2983	1,2 – Dichloropropane	2984	Trichloroethylene (TCE)	2985	1,1,2-Trichloroethane	2986	1,1,1,2-Tetrachloroethane
2987	Tetrachloroethene (PCE)	2988	1,1,2,2-Tetrachloroethane	2989	Monochlorobenzene	2990	Benzene
2991	Toluene	2992	Ethylbenzene	2993	Bromobenzene	2994	Isopropylbenzene
2995	m-Xylene	2996	Styrene	2997	o-Xylene	2998	n-Propylbenzene
4000	Gross Alpha	4010	Combined Radium	4030	Radium-228	2005	Endrin
2010	BHC-Gamma (Lindane)	2015	Methoychlor	2021	Carbaryl	2022	Methomyl
2031	Dalapon	2035	Di(2-ethyhexyl)Adipate	2036	Oxamyl (Vydate)	2037	Simaine
2039	Di(2-ethyhexyl)Phthalate	2040	Picloram	2041	Dinoseb	2042	Hexachlorocyclopentadiene
2043	Alicarb Sulfoxide	2044	Aldicarb Sufone	2045	Metolachlor	2046	Carbofuran
2047	Alidicarb	2050	Atrazine	2051	Alachlor (Lasso)	2066	3-Hydroxycarbofuran
2065	Heptachlor	2067	Heptachlor Epoxide	2070	Dieldrin	2076	Butachlor
2077	Propachlor	2105	2,4-D	2110	2,4,5-TP (Sillvex)	2111	2,4,5-T
2274	Hexachlorobenzene (HCB)	2306	Benzo(a)Pyrene	2326	Pentachlorophenol	2356	Aldrin
2440	Dicamba	2595	Metribuzin (Sencor)	2931	1,2,- Dibromo-3-Chloropropane		
2946	Ethylene Dibromide (EDB)	2959	Chlordane				

Detected Contaminants *NOT* in Violation of the MCL: In addition to these undetected substances, the Sanitary District did find some regulated substances present in the water system at levels below the maximum allowable level (MCL), which is determined safe by the EPA. These substances are shown below, along with MCL and MCLG for each one detected.

Plant ID: Irving Ave. # 4

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

Plant ID: Crisfield Lane # 5

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: Hickory Road # 6

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.25	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Detected Contaminants *NOT* in Violation of the MCL (continued):

Plant ID: Loretta Road # 11

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: Hawk Lane #10

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.30 - 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	119	mg/l	-	-	Erosion of geological and natural salt
3. Gross Beta 4100	<4.0 – 5.9	pCi/l	n/a	n/a	Erosion of Natural Deposits
4. Chloroform 2941	0.0005 – 0021	mg/l	n/a	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.
5. Bromodichloromethane 2943	<0.0005 - 0.002	mg/l	n/a	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.

Plant ID: Rest Stop #3

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: Ridge Road #8

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

Plant ID: Washington High #9

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.3.70	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Plant ID: Industrial Park #7

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.31 - 0.58	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Plant ID: Loretto Road # 11

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Fluoride 1025	0.24 - 0.25	mg/l	4	2	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
2. Barium 1010	0.0008 - 0.008	mg/l	2	2	Discharge from drilling waste Discharge from metal finishing and processing
3. Sodium 1052	78 - 92	mg/l	-	-	Erosion of geological and natural salt
4. Selenium 1045	0.002	mg/l	0.05	0.05	Erosion of geological and natural deposits
5. Gross Beta 4100	4.3 – 6.0	pCi/l	n/a	n/a	Erosion of Natural Deposits

Princess Anne Water System

Contaminant	Level Detected	Unit of Measure	MCL	MCLG	Likely Source of Contamination
1. Total Trihalamethanes	0.0339 – 0.123	mg/l	0.080	0.080	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.
Bromodichloroethane 2943	0.0364 – 0.0547	mg/l	LRAA	LRAA	
Bromoform 2942	0.0033 – 0.0242	mg/l			
Chloroform 2941	0.0151 – 0.0547	mg/l			
Dibromochloromethane 2944	0.0018 – 0.0257	mg/l			
2. Total Haloacetic Acids	0.0226 – 0.0339	mg/l	0.060	0.060	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.
Monochloroacetic Acid MCAA	<0.002	mg/l	LRAA	LRAA	
Monobromoacetic Acid MBAA	<0.001	mg/l			
Dichloroacetic Acid DCAA	0.0048 - 0.0111	mg/l			
Dibromoacetic Acid DBAA	0.0028 – 0.0148	mg/l			
Trichloroactetic Acid TCAA	0.0087 – 0.0143	mg/l			

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 2012 measured in a range of 0.25 mg/l to 3.70 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 2012. The Sanitary District monitors the drinking water regularly for pH, Free Chlorine, Total Chlorine, 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 contaminates 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.

As you can see by the table, our system had no violations of the Maximum Contaminant Levels in 2012. Your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA 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. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding. Please call our office if you have questions.

We at the Somerset County Sanitary District, Inc. work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.