

JOINT BASE ANDREWS WATER SYSTEM



2015 WATER QUALITY REPORT



Our Mission: Serving Those Who Serve®

Protecting and Preserving Your Drinking Water

We are pleased to present the following Joint Base Andrews 2015 Water Quality Report, which contains information about testing completed in your water system through December 2015.

Terrapin Utility Services, Inc. (TUS) takes seriously its job as the guardian of drinking water quality for its customers. TUS is regulated by the state and federal government, and we are proud to say the quality of your water continually meets all drinking water quality standards.

TUS works with the Washington Suburban Sanitary Commission (WSSC) and members of the 779th Aerospace Squadron to ensure you receive water that meets regulatory requirements. Each week, industry professionals take water samples to monitor quality at approved sites throughout the distribution system. If there is an exceedance of a drinking water standard, we are required to notify you quickly and take action to restore normal service.

We pride ourselves on our strong customer service culture that comes from industry knowledge and relationships built in the water industry. Our representatives are available around the clock to answer questions and address any water concerns day or night.

On behalf of all of us at Terrapin Utility Services, Inc., thank you for providing us the opportunity to serve you. If you have any questions about this report, please call the TUS office at (301) 735-4101.

Sincerely,

Robert Sprowls
President and Chief Executive Officer
American States Water Company

Greg Booker
Utility Manager
Terrapin State Utility Services

About the Company

American States Water Company is an investor-owned utility publicly traded on the New York Stock Exchange under the trading symbol AWR and is the parent company of American States Utility Services (ASUS). ASUS is one of the leaders in privatization of utilities on military installations across the nation. Through its subsidiary, Terrapin State Utility Services, Inc. (TUS), the important responsibility of managing the water systems at Joint Base Andrews is accomplished.

AWR and its family of companies provide water to communities throughout the United States. For more than 80 years, we've been installing and maintaining complex structures consisting of thousands of miles of pipelines, wells, pumping stations and reservoirs. With AWR companies, you can count on reliable water services, quality drinking water, and unsurpassed response to your questions.

You can find our companies in California, Maryland, New Mexico, North Carolina, South Carolina, Texas and Virginia. Our trained personnel have thousands of years of combined experience and are certified to work the various aspects of water systems. Our water testing procedures allow us to meet or exceed the water quality regulations set in place by the US Environmental Protection Agency (USEPA) and the Maryland Department of Health and Environmental Control (DHEC) to deliver quality, wholesome water to you – our customers.

Managing the daily operations for TUS is Greg Booker, Utility Manager. Greg is a seasoned professional in the water industry. He has worked in all phases of water distribution.

All the men and women at TUS are committed to meeting the needs of Joint Base Andrews. The water system at Joint Base Andrews undergoes comprehensive infrastructure analysis to determine what areas need repair, replacement or new facilities.

We're here to give you peace of mind – water when you need it and unsurpassed service. For questions on your water service, please contact Greg Booker, Utility Manager at (301) 735-4101.



Serving Fort Bragg, Pope Army Air Field,
and Camp Mackall, North Carolina

Our Subsidiaries



Serving Fort Bliss and Biggs Army
Air Field, Texas



Serving Andrews Air Force Base, Maryland



Serving Fort Eustis, Fort Monroe, Fort Story,
and Fort Lee, Virginia



Serving Fort Jackson, South Carolina

Safekeeping of Water Supplies and Facilities

To reduce the risk of terrorism affecting local water supplies and distribution systems, Terrapin State Utility Services, Inc. is following recommendations from the Federal Bureau of Investigation, the United States Environmental Protection Agency and the American Water Works Association. While water systems have a low relative likelihood of experiencing terrorist acts, these agencies advise that water systems should guard against unplanned physical intrusion, review emergency response plans, and increase vigilance. Terrapin State Utility Services, Inc. has taken all these steps and is continuing to look for additional safety improvements.

If You Have Questions – Contact Us

For information about your water quality or to find out about upcoming opportunities to participate in public meetings, please contact Greg Booker, Utility Manager, at (301) 735-4101.

Information Statement from EPA on Lead

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. Washington Suburban Sanitary Commission 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 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 or at <http://www.epa.gov/safewater/lead>

For more information about health effects of the listed constituents in the enclosed tables, call the EPA hotline at 1-800-426-4791.

Risk to Tap and Bottled Water

To ensure that tap water is safe to drink, the U.S.EPA prescribes regulations limiting the amount of certain contaminants in water provided by public Water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Tap vs. Bottled

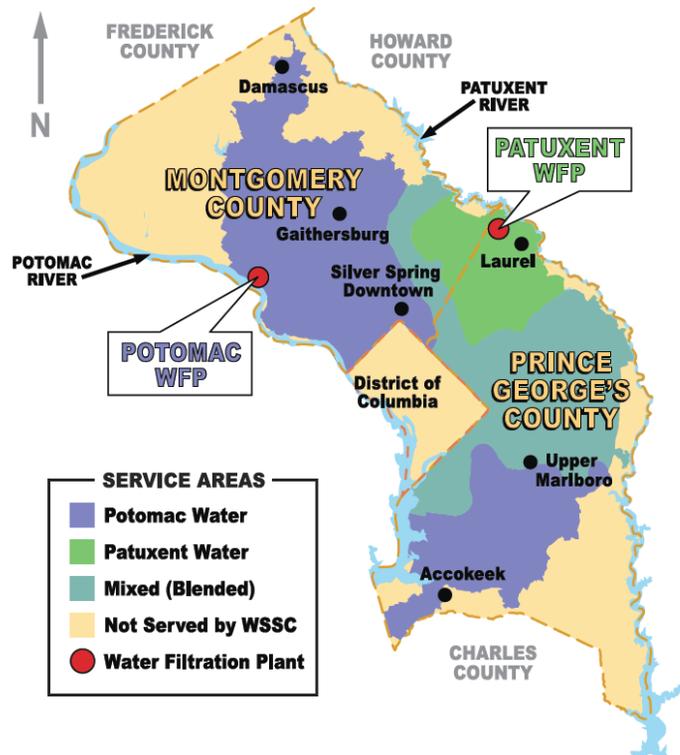
Thanks in part to aggressive marketing; the bottled water industry has successfully convinced us all that water purchased in bottles is healthier alternative to tap water. However, according to a four-year study conducted by the National Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content for some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that is packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could be

Where Does Our Water Come From?

Joint Base Andrews purchases its drinking water from the Washington Suburban Sanitary Commission (WSSC). WSSC filters and processes water from the Patuxent and Potomac Rivers and provides this water to Joint Base Andrews through their distribution system. The source water treated at the Patuxent Water Filtration Plant (WFP) is held in two



reservoirs - Triadelphia and T. Howard Duckett (also known as Rocky Gorge) - and is pumped to the plant. The Potomac WFP draws water directly from the Potomac River. The map shows the approximate service areas for both the Patuxent and Potomac WFPs.

spending up to \$1,400 annually. That same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you would pay for bottled water.

For a detailed discussion on the NRDC study results, check out their web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Definitions

2015 Water Quality Report						Washington Suburban Sanitary Commission					
Water Quality Data											
DETECTED REGULATED CONTAMINANTS											
SUBSTANCE	UNITS	PATUXENT TAP		POTOMAC TAP		MCL (or TT)	MCLG	VIOLA-TION?	MAJOR SOURCE IN DRINKING WATER		
		LEVEL FOUND*	RANGE	LEVEL FOUND*	RANGE						
METALS											
Arsenic	µg/L	n/d	n/d - <2	n/d	n/d - 5	10	0	NO	Erosion of natural deposits; runoff from orchards		
Barium	mg/L	0.027	0.023 - 0.033	0.036	0.027 - 0.053	2	2	NO	Discharge of drilling wastes & metal refineries; erosion of natural deposits		
Total Chromium	µg/L	n/d	n/d - <2	<2	n/d - 2	100	100	NO	Discharge from steel & pulp mills; erosion of natural deposits		
Selenium	µg/L	n/d	n/d - 2	<2	n/d - 13	50	50	NO	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines		
Thallium	µg/L	n/d	n/d - <1	n/d	n/d - n/d	2	0.5	NO	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.		
INORGANIC CONTAMINANTS											
Fluoride	mg/L	0.67	0.44 - 0.83	0.68	0.54 - 0.87	4	4	NO	Water additive which promotes strong teeth; erosion of natural deposits		
Nitrate	mg/L	1.0	0.3 - 1.7	1.4	0.5 - 2.3	10	10	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		
Nitrite	mg/L	<0.05	n/d - <0.05	n/d	n/d - <0.05	1	1	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		
MICROBIAL CONTAMINANTS											
Turbidity	NTU	0.03	0.02-0.10 ¹	0.04	0.01 - 0.22 ²	TT=1 NTU	n/a	NO	Soil runoff		
Residual chlorine	% <0.3 NTU	100%	n/a	100%	n/a	TT=95% min	n/a	NO	Water additive used to control microbes		
Viruses	mg/L	met TT requirements	met TT requirements	met TT requirements	met TT requirements	TT>=0.2	n/a	NO	Human and animal fecal waste		
<i>Giardia lamblia</i>	n/a	met TT requirements	met TT requirements	met TT requirements	met TT requirements	removal TT=99.9%	0	NO	Human and animal fecal waste		
<i>Cryptosporidium</i>	n/a	met TT requirements	met TT requirements	met TT requirements	met TT requirements	removal TT=99%	0	NO	Human and animal fecal waste		
DISINFECTION BYPRODUCT (DBP) PRECURSOR											
Total Organic Carbon	n/a	met TT requirements	met TT requirements	met TT requirements	met TT requirements	TT	n/a	NO	Naturally present in the environment		
PESTICIDES & SYNTHETIC ORGANIC CONTAMINANTS											
Atrazine	µg/L	n/d	n/d - <1	n/d	n/d - n/d	3	3	NO	Runoff from herbicide used on row crops		
Diapron	µg/L	n/d	n/d - <1	n/d	n/d - <1	200	200	NO	Runoff from herbicide used on rights of way		
DIC-2-ethylhexylphthalate	µg/L	n/d	n/d - n/d	n/d	n/d - <2	6	0	NO	Discharge from rubber and chemical factories		
Simazine	µg/L	n/d	n/d - <1	n/d	n/d - n/d	4	0	NO	Herbicide runoff		
VOLATILE ORGANIC CONTAMINANTS											
1,2-Dichlorobenzene	µg/L	n/d	n/d - <0.5	n/d	n/d - n/d	600	600	NO	Discharge from industrial chemical factories		
1,4-Dichlorobenzene	µg/L	n/d	n/d - <0.5	n/d	n/d - n/d	75	75	NO	Discharge from industrial chemical factories		
Total Xylenes	mg/L	n/d	n/d - <0.0005	n/d	n/d - n/d	10	10	NO	Discharge from petroleum factories; discharge from chemical factories		
RADIOACTIVE CONTAMINANTS											
Gross Alpha	pCi/L	<2	<2 - <2	<2	<2 - <2	15	0	NO	Erosion of natural deposits		
Gross Beta	pCi/L	<4	<4 - <4	<4	<4 - <4	50 ²	0	NO	Decay of natural and man-made deposits		
Radium 228	pCi/L	<1	<0.9 - <1	<1	<0.8 - <1	5 ¹	0 ¹	NO	Erosion of natural deposits		
SUBSTANCE UNITS CUSTOMER TAP # 90th PERCENTILE # # of SITES ABOVE AL											
METALS											
Copper	mg/L	0.0674		0 samples		1.3	1.3	NO	Corrosion of household plumbing systems		
Lead	µg/L	1.17		0 samples		15	0	NO	Corrosion of household plumbing systems		
SUBSTANCE UNITS DISTRIBUTION SYSTEM MCL MCLG VIOLA-TION? MAJOR SOURCE IN DRINKING WATER											
BACTERIOLOGICAL CONTAMINANTS											
Total Coliform	% Positive per month	0.33		0 - 1.05		5	0	NO	Naturally present in the environment		
No. of <i>E. coli</i> Positive Samples	Count	0		0 - 0		0	0	NO	Human and animal fecal waste		
DISINFECTANT & DBPs											
Residual Chlorine	mg/L	1.26 ²		n/d ¹ - 4.50		4 ¹	4 ¹	NO	Water additive used to control microbes		
Halocetic Acids (HAAs)	µg/L	43.4 ³		2.9 - 87.7		60 ¹⁰	n/a	NO	Byproduct of drinking water chlorination		
Total Trihalomethanes (THMs)	µg/L	62.1 ¹¹		16.5 - 94.5		80 ¹⁰	n/a	NO	Byproduct of drinking water chlorination		
DETECTED UNREGULATED CONTAMINANTS											
SUBSTANCE UNITS PATUXENT TAP POTOMAC TAP MCL MCLG VIOLA-TION? MAJOR SOURCE IN DRINKING WATER											
METALS											
Hexavalent Chromium ¹¹	µg/L	0.035	n/d - 0.050	0.120	0.074 - 0.220	n/a	n/a	n/a			
Strontium ¹¹	µg/L	68	67 - 70	162	120 - 220	n/a	n/a	n/a			
Vanadium ¹¹	µg/L	n/d	n/d - n/d	0.33	n/d - 0.60	n/a	n/a	n/a			
Molybdenum ¹¹	µg/L	n/d	n/d - n/d	0.30	n/d - 1.20	n/a	n/a	n/a			
INORGANIC CONTAMINANTS											
Chlorate ¹¹	µg/L	n/d	n/d - n/d	31	n/d - 62	n/a	n/a	n/a			
Sodium	mg/L	16.4	13.0 - 28.0	32.8	17.0 - 220	n/a	n/a	n/a			
SUBSTANCE UNITS DISTRIBUTION SYSTEM MCL MCLG VIOLA-TION? MAJOR SOURCE IN DRINKING WATER											
METALS											
Hexavalent Chromium ¹¹	µg/L	0.160		0.100 - 0.280		n/a	n/a	n/a			
Strontium ¹¹	µg/L	148		120 - 220		n/a	n/a	n/a			
Vanadium ¹¹	µg/L	0.25		n/d - 0.65		n/a	n/a	n/a			
INORGANIC CONTAMINANTS											
Chlorate ¹¹	µg/L	30		23 - 51		n/a	n/a	n/a			

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the maximum contaminant level goals as is economically and technologically

feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG)

The level of contaminant in drinking water below which there is no known or expected risk to health. Maximum contaminant level goals are set by EPA. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL)

The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG)

The level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLGs are set by EPA. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Primary Drinking Water Standard (PDWS)

MCLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.

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.

Sample Results

-See full report on WSSCs website: <https://www.wsscwater.com/waterquality>

Measurements

Water is sampled and tested throughout the year.

Contaminants are measured in:

- Parts per million (ppm) or milligrams per liter (mg/L),
- Parts per billion (ppb) or micrograms per liter ($\mu\text{g/L}$),
- Parts per trillion (ppt) or nanograms per liter (ng/L).
- Grains per gallon (grains/gal) – A measurement of water hardness often used for sizing household water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.
- Nephelometric Turbidity Units (NTU) – A measurement of the clarity of water. Turbidity in excess of 5 NTU is noticeable to the average person.
- Picocuries per liter (pCi/L) – A measurement of radioactivity in water.

If this is difficult to imagine, think about these comparisons:

Parts per

3 drops in 42 gallons

1 second in 12 days

1 inch in 16 miles



million:

Parts per billion:

1 drop in 14,000 gallons

1 second in 32 years

1 inch in 16,000 miles



Parts per trillion:

10 drops in enough water to fill the Rose Bowl

1 second in 32,000 years

1 inch in 16 million miles



For Systems

Some people may be more vulnerable to constituents in the water than the general population. Immuno-compromised people, such as those with cancer undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk of infections. These people should seek advice about drinking water from their healthcare providers. The EPA and the Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's safe drinking water hotline at 1-800-426-4791.

Sample Reporting

This report is a summary of the quality of the water we provide our customers. The analysis was made using data from the most recent U.S. Environmental Protection Agency (EPA) required tests and is presented in the included pages. We hope this information helps you become more knowledgeable about what's in your drinking water.

Although all the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance is present in the water. Compliance (unless otherwise noted) is based on the average level of concentration being below the MCL. The State allows us to monitor for some contaminants less than once per year because the concentrations do not change frequently. Some of our data, though representative, are more than a year old.

Lead and Copper

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 line and home plumbing. The Washington Suburban Sanitary Commission 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 the 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 at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.