Source Water

The water provided to you by the City of Petersburg Department of Public Utilities is wholly surface water (no groundwater) purchased from the Appomattox River Water Authority (ARWA). ARWA obtains source water from Lake Chesdin, a man-made reservoir formed by damming the Appomattox River at the George F. Brasfield Dam in Chesterfield County. Within the watershed there are numerous animal feedlots and farms, but none discharge substantial contaminants into Lake Chesdin. The nearest wastewater treatment plant is the Farmville Wastewater Treatment Plant. It is located more than 40 miles upstream and does not warrant concern for pollution.

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:

- 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 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 can also come from gas stations, urban stormwater runoff, and septic systems.
- 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 which 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 protections for public health.

Water Quality Data for 2016

Substance Name	Level Allowed (MCL)	Goal (MCLG)	Level Detected	Typical Source
Regulated in the Distribution System				
Total Coliform Bacteria (highest % of positive samples in one month)	Presence of coliform bacteria in 5% of monthly samples	0	528 of 528 samples tested negative	Naturally present in the environment
Chlorite	1 ppm	0.8 ppm	0.14 ppm avg. (range 0.025 -0.29 ppm)	By-product of drinking water disinfection
Total Trihalomethanes	80 ppb	N/A	33 ppb avg. (range 15.48-36.21 ppb)	By-products of drinking water disinfection
Haloacetic Acid Analyses	60 ppb	N/A	21.79 ppb avg. (range 12.11-34 ppb)	By-products of drinking water disinfection
Copper	AL: 1.3 ppm	1.3	.131 ppm	Corrosion of household plumbing systems; erosion of natural deposits
Lead	AL: 15 ppb	0	<2.0 ppb	
Chloramines	MRDL is 4.0 ppm	MRDLG 4.0 ppm	2.4 ppm avg. (range 0.2 – 5.5 ppm)	Additive to control microbes
Regulated at the ARWA Treatment Plant				
Turbidity – Filtered ***	TT=<0.3 (95 % of the time) and 1.0 NTU max	N/A	0.032 100% of the time 0.204 NTU max	Soil runoff
Fluoride	4 ppm	4 ppm	Avg. of 0.65 ppm (range <0.1-1.25 ppm)	Water additive that promotes strong teeth
Nitrate	10 ppm	10 ppm	0.33 ppm	Fertilizer run off
Total Organic Carbon (TOC) ***	TT=Minimum annual average removal ratio >1	N/A	Annual avg 1.40 (range 1.26-1.51)	Naturally present in the environment
Barium	2 ppm	2 ppm	.02 ppm	Erosion of natural deposits
Chlorine Dioxide	MRDL is 0.8 ppm	MRDLG 0.8 ppm	<0.10 ppm avg. Range <0.10 - 0.21	Additive to control microbes
Beta/Photon emitters****	50 pCi/L	0	4.9 pCi/L	Decay of natural and man-made deposits
Alpha emitters	15 pCi/L	0	<0.6 pCi/L	Erosion of natural deposits
Radium	5 pCi/L	0	<0.6 pCi/L	Erosion of natural deposits
Unregulated at ARWA Treatment Plant				
Chloroform	Unregulated**	0	12 ppb	By-products of drinking water disinfection
Bromodichloromethane		0	6.0 ppb	
Dibromochloromethane		0	1.5 ppb	
MTBE		0	<5 ppb	Gasoline additive
Sulfate		0	25.1 ppm	Naturally present in the environment

Notes: ** Unregulated Contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants. ***MCL for turbidity and TOC is a treatment technique

****EPA considers 50 pCi/l to be the level of concern for beta particles. The MCL for beta particles is 4 mrem/year.

Substances Naturally Found in Your Water

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 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).

Definitions

Maximum Contaminant Level (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 (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.

***ppb*:** Parts per billion, or micrograms per liter (µg/L)

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

***ppm*:** Parts per million, or milligrams per liter (mg/L)

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

Nephelometric Turbidity Unit (NTU): The measure of turbidity in the water.

pCi/L: picocuries per liter (a measure of radioactivity)

Maximum Residual Disinfection Level (MRDL): Maximum level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control microbial contaminants

Maximum Residual Disinfection Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

Cryptosporidium

Cryptosporium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. ARWA's monitoring indicates the presence of these organisms in the source water. Current test methods do not allow us to determine if these organisms are dead or if they are capable of causing disease. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Source Water Assessment

The Virginia Dept. of Health conducted a source water assessment of ARWA's system during 2002. Lake Chesdin (Appomattox River) was determined to be of high susceptibility to contamination using criteria developed by the State in its EPA-approved Source Water Assessment Program. 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 the last five years from date of assessment. The report is available by contacting Dr. Robert C. Wichser, P.E., ARWA at (804)-590-1145.

Violations

We failed to sample for Lead and Copper in 2014 and 2015 as required. Samples were taken in 2016 and all results were below the recommended levels. All consumers have been notified of the failure to sample and of the results of the tests if taken from their residence.

Lead Levels

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Citizen Input Welcome

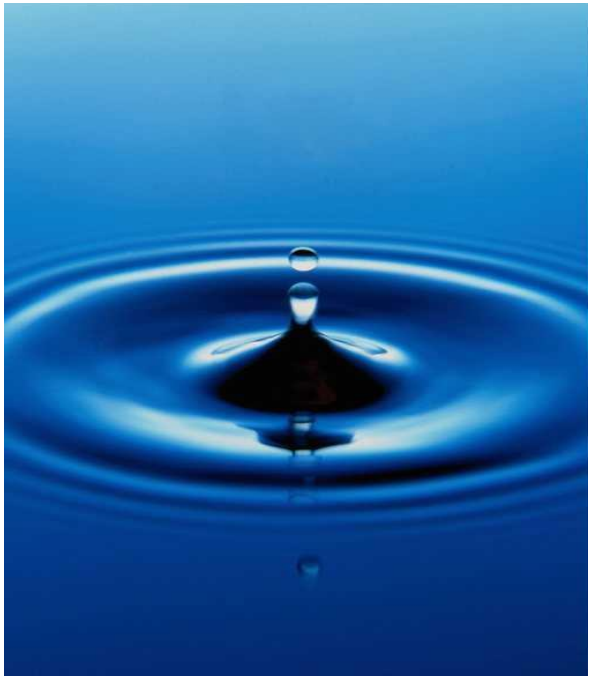
If you have questions or comments of any kind about this report or your drinking water, please do not hesitate to contact the Public Utilities Office at (804) 733-2407.

City of Petersburg
Department of Public Utilities
424 Saint Andrew Street
Petersburg, VA 23803

2016 Water Quality Report

June 2017

PWSID# 3730750



This publication is a summary of last year's water quality data and conforms to the EPA regulation that requires water utilities to provide water quality information to customers on a yearly basis. Included are details about where your water comes from, what it contains, and how it compares to EPA and Virginia standards. The City of Petersburg is committed to providing you, our customers, with information about the safe, clean water you and your families receive from your tap.