

# **ANNUAL WATER QUALITY REPORT**

## **GCWSA – JARRATT**

### **PWSID 3081550**

This Annual Drinking Water Quality Report for 2017 is designed to inform you about your drinking water quality. The Greenville County Water & Sewer Authority takes great strides to ensure your water is safe every time you turn on your faucet or take a sip from a public water fountain. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health.

If you have questions about this report, please contact: Glen Gibson, Assistant Director; (434) 348-4205

If you want additional information about any aspect of your drinking water or want to know how to participate in decisions that may affect the quality of your drinking water, please contact: K. David Whittington, Director; (434) 348-4205

The time and location of regularly scheduled board meetings are as follows: The 1<sup>st</sup> and 3<sup>rd</sup> Monday of each month at the conclusion of the Greenville County Board meeting. They start at 6 p.m. at the Greenville County Government Center, 1781 Greenville County Circle.

#### **GENERAL INFORMATION**

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and can pick up substances left behind by animals or human activity. Substances, (referred to as contaminants), in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable, while groundwater may or may not have any treatment.

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 storm-water 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 chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm-water runoff, and septic systems;
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of 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). In order to ensure tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as people with cancer undergoing chemotherapy, people 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).

## **SOURCE AND TREATMENT OF YOUR DRINKING WATER**

The water treatment plant is a surface water plant whose source is the Nottoway River. Water is pumped from the river into two 500,000 gallon settling tanks. The tanks settle out larger suspended solids, such as dirt, sand, silt and clay. Water leaves the tanks and chlorine dioxide is injected to oxidize and disinfect the water before it enters the plant. As the water enters the plant, alum, caustic soda and polymer are added to coagulate the water before it enters the clarifiers. In the clarifiers, the smaller suspended solids come together and form larger solids. The larger solids settle to the bottom as the clear water rises and overflows the clarifiers. The clear water is then applied to the top of the filters. Water flows through the filters removing the smaller suspended solids.

The water leaves the filters and enters the chlorine contact tank where chlorine is added for additional disinfection and caustic soda is added to increase the pH of the water. After the contact tank, fluoride is added for dental health and ammonia is added to form chloramines for distribution system disinfection. Water leaves the plant and is stored in a 200,000 gallon tank until the system needs additional water.

The Virginia Department of Health conducted a Source Water Assessment of the Town of Jarratt Waterworks in 2001. The river was determined to be of high susceptibility to contamination using the criteria developed by the State in its approved Source Water Assessment Program. The assessment report consists of maps showing the Source Water Assessment area, an inventory of known land use activities, best management practices utilized at land use activity sites in zone 1, susceptibility explanation chart, and definitions of key terms. The report is available by contacting your waterworks system owner/operator at the phone number or address included in this water quality report.

## **WATER QUALITY RESULTS**

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The EPA requires that Table I reflect monitoring results for the period of January 1<sup>st</sup> 2013 through December 31<sup>st</sup>, 2017. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, may be more than one year old. Only the most recent sample results from the prescribed period are reported. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment.

## **DEFINITIONS**

Contaminants in your drinking water are routinely monitored according to Federal and State regulations. The table on the next page shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2017. In the table and elsewhere in this report you will find many terms and abbreviations you may not be familiar with. The following definitions are provided to help you better understand these terms:

Non-detects (ND) - lab analysis indicates that the contaminant 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.

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

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

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.

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.

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.

Maximum Residual Disinfectant Level (MRDL) - the highest level of a disinfectant allowed in drinking water. 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 drinking water disinfectant below which there is known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**WATER QUALITY RESULTS: GCWSA – JARRATT (Detected Contaminants Only)**

Contaminant Units	MCLG	MCL	Level Found	Range	Violation	Date of Sample	Typical Source of Contamination
Total Organic Carbon (removal ratio)	N/A	TT, 12 month avg. ratio $\geq 1.0$	1.32	0.98 – 1.57	No	2017	Naturally present in the environment.
Turbidity (NTU) *	N/A	TT, 1 ntu Max	0.4	N/A	No	2017	Soil runoff
		TT, $\leq .3$ ntu (95% of the time)	YES	N/A	No		
Lead (ppb)**	0	AL = 15	4.1	ND – 5.49	No	2016	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper (ppm)	1.3	AL = 1.3	0.045	ND - 0.052	No	2016	Corrosion of household plumbing systems; Erosion of natural deposits
Fluoride (ppm)	4	4	0.83	N/A	No	2017	Water additive that promotes strong teeth.
Chloramines (ppm)	MRDLG 4	MRDL 4	3.43	2 - 4	No	2017	Water additive used to control microbes.
Chlorine Dioxide (ppb)	800	800	600	0 - 600	No	2017	Water additive used to control microbes.

Total Trihalomethanes (ppb)	N/A	80	38	13 - 51	No	2017	By-product of drinking water chlorination.
Haloacetic Acids (ppb)	N/A	60	36	12 - 38	No	2017	By-Product of drinking water disinfection.
Chlorite (ppm)	0.8	1	0.325	0.136 - 0.385	No	2017	By-Product of drinking water chlorination.
Barium (ppm)	2	2	0.02	N/A	No	2017	Discharge of drilling wastes; Discharge from refineries; Erosion of natural deposits
Gross Beta (pCi/L)	0	50***	1.6	N/A	No	2016	Decay of natural and man-made deposits.

\* Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

\*\* 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. Greenville County Water & Sewer Authority 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>.

\*\*\* The MCL for Gross Beta is 4 mrem/year (Millirems per year). EPA considers 50 pCi/L to be the level of concern for beta particles.

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The table lists only those contaminants that had some level of detection. Many other contaminants have been analyzed but were not present or were below the detection limits of the lab equipment. Most of the results in the table are from testing done in 2017. However, the state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old. MCL's are set at very stringent levels by the U.S.

Environmental Protection Agency. In developing the standards, EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

## **VIOLATION INFORMATION**

Did any MCL or TT violations occur during the year? **No**

Did any monitoring, reporting, or other violations occur during the year? **No**

This Drinking Water Quality Report was prepared by:  
Scott Nunnally, Chief Operator (434) 535-9987  
Greenville County Water and Sewer Authority