

RUSSELL COUNTY PUBLIC SERVICE AUTHORITY

Annual Drinking Water Quality Report 2016

Swords Creek Waterworks

This Annual Drinking Water Quality Report for calendar year 2016 is designed to inform you about your drinking water quality. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand the efforts we make to protect your water supply. The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health (VDH). **We at the Russell County Public Service Authority are pleased to report to you that your drinking water is safe and meets federal and state requirements.**

If you have questions about this report, please contact: **Harvey Hart at 276-991-0200.**

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: Harvey Hart at 276-991-0200.

The times and location of regularly scheduled board meetings are as follows: **The Russell County PSA Board of Directors meetings are scheduled for the third Monday of each month at 6:00 pm. The meetings are held at the Russell County Government Center 137 Highland Dr. Lebanon, VA**

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 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: (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (2) 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. (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. (4) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems. (5) 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. Food and Drug Administration regulations establish limits for contaminants in Bottled water which must provide the same protection for public health.

All drinking water, including bottled drinking 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 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The source of your drinking water is surface water taken from the Clinch River. Russell PSA water is bulk purchased from the Town of Richlands.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The Clinch 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 of concern, and documentation of any known contamination within the last 5 years. The report is available by contacting the **Richlands Water Treatment Plant at 276-964-2578.**

Is there any treatment of your drinking water supply? **Yes**, if yes, describe it: Treatment of these sources consists of chemical addition, coagulation, flocculation, dissolved air floatation, filtration, fluoridation and chlorination.

Under a new program being developed by VDH, a detailed source water assessment will be conducted within the next few years to find ways to better protect our water sources. After the assessment is conducted, we will provide you with information about potential sources of contamination and measures to reduce or eliminate the sources of contamination.

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 1st to December 31st, **2016**. In the table and elsewhere in this report you will find many terms and abbreviations you might not be familiar with. **The following definitions are provided to help you better understand these terms:**

Action Level – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level, or 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, or 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 or 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 or MRDLG – the level of 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 contaminants.

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.

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

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

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity, or cloudiness, of water. Turbidity more than 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.

Certain contaminants (such as, arsenic, nitrate, and lead), if present in your drinking water, may be of special concern to consumers. Are any of those contaminants present at levels of concern that must be reported? **No**

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High Nitrate levels in drinking water can cause blue baby

syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agriculture activity. If you are caring for an infant, you should ask for advice from your health care provider.

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

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

Your water system did not have any violations during the year.

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.

Level 1 assessment - a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 assessment - a very detailed study of the waterworks to identify potential problems and determine (if possible) why an *E. coli* PMCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

SWORDS CREEK Regulated Contaminants

Contaminant (units)	MCLG	MCL	Level Detected	Violation (Y/N)	Range	Date of Sample	Typical Source of Contamination
Trihalomethanes (ppb)	N/A	80	78	N	25 - 110	2016	By-product of drinking water disinfection
Haloacetic Acids (ppb)	NA	60	62	Y	29 - 55	2016	By-product of drinking water disinfection
Nitrate (ppm)	10	10	0.69	N	N/A	2016	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium (ppm)	2	2	0.058	N	N/A	2016	Discharge of drilling waste; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	4.0	4.0	1.28	N	0.64 - 1.72	2016	Water additives to control microbes
Turbidity (NTU)	N/A	<u>TT, 1 NTU max</u>	0.028	N	N/A	2016	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.
		<u>TT, <0.3 NTU 95% of time</u>	100 %	N	N/A		
Total Organic Carbon	NA	TT, MET when > or = 1	1.0	N	1.0 - 1.0	2016	Naturally present in the environment

Lead and Copper Contaminants

Contaminant (units)	MCLG	Action Level	90 th Percentile	Date of Sample	# of Sample Sites Exceeding Action Level	Typical source of Contamination
Lead (ppb)	0	AL = 15	6	2016	1	Corrosion of household plumbing systems; Erosion of natural deposits

VIOLATION INFORMATION

VIOLATION	EXPLANATION OF THE VIOLATION	LENGTH OF THE VIOLATION	STEPS TAKEN TO CORRECT THE VIOLATION	HEALTH EFFECT LANGUAGE
MCL- Exceedance of the four quarter Primary MCL LRAA of 60 ppb for Haloacetic Acids (THHMs)	The HAA5 LRAA exceeded 60 mg/L in the second quarter of 2016. The exceedance was caused by high fourth quarter 2015 detections from October through December 2015.	Second quarter, 2016 (April through June)	We are working with the Health Dept. to try and determine why the HAA5s are high along with flushing the system to try and reduce the HAA5 levels. Quarterly samples continue to be taken.	Some people who drink water containing Haloacetic Acids in excess of the MCL over many years may have an increased risk of getting cancer.

The water quality results in the tables above are from testing done in 2016. 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 in the above tables, though accurate, is more than one year old.

The U.S. Environmental Protection Agency sets MCL's at very stringent levels. 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 effect for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effects

for other contaminants.

ADDITIONAL HEALTH INFORMATION

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. Russell County Public Service 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 two minutes or until it becomes cold or reaches a steady temperature 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>.