

Virginia Ridge

Annual Drinking Water Quality Report

INTRODUCTION

This Annual Drinking Water Quality Report for calendar year 2017 is designed to provide you with valuable information about your drinking water quality. We are committed to providing 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 meets all state and federal requirements administered by the Virginia Department of Health (VDH). If you have questions about this report, 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:

Mr. Stephen Rossi, S.C. Rossi & Co., Inc. at (540) 342-6600

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 resulting from the presence of animals or from 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 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 byproducts 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.

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. Immune-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).

SOURCES AND TREATMENT OF YOUR DRINKING WATER

Your drinking water was groundwater obtained from one of two drilled wells. Water is distributed throughout the system by the storage tanks and distribution piping. Chlorination treatment is provided before water enters the storage tanks. The water is also treated with soda ash and potassium permanganate. The soda ash is used to increase the pH level and the potassium permanganate is used to collect iron and manganese. After the water is treated with these three additives, it is then filtered through a green sand filter which removes the iron and manganese from the water. The water is then treated one final time with a corrosion inhibitor and sent to the storage tank/ distribution system.

SOURCE WATER ASSESSMENTS

A source water assessment has been completed by VDH. The assessment determined that the wells may be susceptible to contamination because they are located in an area that promotes migration of contaminants from land use activities of concern. More specific information may be obtained by contacting the water system representative listed above.

QUALITY OF YOUR DRINKING WATER

Your drinking water is routinely monitored according to Federal and State Regulations for a variety of contaminants. The tables that follow show the results of our monitoring for the period of January 1st through December 31st, 2017.

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.

DEFINITIONS

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:

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.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) – one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

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 – 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, 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.

Variances and exemptions – state or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Level 1 Assessment – A Level 1 assessment is 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 Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

WATER QUALITY RESULTS

Microbiological

Contaminant	Unit of Measurement	MCL G	MCL	Level Found	Violation	Sample Date(s)	Typical Source of Contamination
Total Coliform bacteria	presence or absence	0	presence of coliform bacteria in >1 sample per month	0	No	monthly	naturally present in the environment

Total Coliform bacteria are analyzed every month. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.

Lead and Copper

Contaminant	Unit of Measurement	MCL G	MCL	90% Level	AL Exceeded	Samples > AL	Date of Sample	Typical Source of Contamination
Lead	ppb	0	AL = 15	0.15	no	0	August 2015	corrosion of household plumbing systems; erosion of natural deposits
Copper	ppm	1.3	AL = 1.3	0.04	no	0	August	

Inorganic Contaminants

Contaminant	Unit of Measurement	MCL G	MCL	Level Found	Violation	Sample Date(s)	Typical Source of Contamination
Fluoride	ppm	4	4	1.91	no	March 2016 --	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Barium	ppm	2	2	0.0125	no	October 2015	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

Radiological

Contaminant	Unit of Measurement	MC LG	MCL	Level Found	Violation	Sample Date(s)	Typical Source of Contamination
Gross Alpha	pCi/L	0	15	1.5	No	Jan 2017	Erosion of natural deposits
Radium- 228	pCi/L	0	5	0.74	No	Jan 2017	Erosion of natural deposits

Disinfection Byproduct Contaminants

Contaminant	Unit of Measurement	MCL G	MCL	Level Found (Range)	Violation	Date of Sample(s)	Typical Source of Contamination
Total Trihalomethanes	ppb	0	80	5.29	No	August 2017	by-product of drinking water chlorination
Total Haloacetic Acids	ppb	0	60	1.01	No	August 2017	by-product of drinking water chlorination

Disinfection Residuals

Contaminant	MRD LG	MRD L	Level Found Average & Range	Unit Measurement	Violation	Date of Sample	Typical Source of Contamination
Chlorine	4	4	0.90 range 0.37-0.92	mg/l	No	monthly	Water additive used to control microbes

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.

Maximum Contaminant Levels (MCLs) 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.

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. The Virginia Ridge Water System 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 of at <http://www.epa.gov/safewater/lead>.

VIOLATION INFORMATION

Water Quality Violations – None

Monitoring and Reporting Violations – None

This Drinking Water Quality Report was prepared by the water company with the assistance and approval of the Virginia Department of Health. Please call if you have questions.

Signature: Stephen Rossi

Date: 5/10/2018