THE TOWN OF ROUND HILL

Consumer Confidence Report (CCR) for 2017

The Town of Round Hill is proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2017. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. The Town is steadily upgrading facilities and treatment methods to meet and exceed all public drinking water standards. If you have a question or concern that is not addressed in this report, please contact the Town Administrator, Mr. Buster Nicholson at: 540-338-7878 or the Utility Department at 540-338-4772. Our staff is available to assist you Monday through Friday between 8:30 a.m. and 4:30 p.m.



HELPFUL DEFINITIONS

Action Level: The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement that a water system must follow.

Maximum Contaminant Level *(MCL)*: The highest level of a contaminant that EPA allows in drinking water. MCLs are set as close to the MCLGs as possible 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 maximum permissible level of disinfectant residual in drinking water, based on a running annual average.

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

ND: Non-detect. Concentration levels so low they were not detectable.

Ninetieth (90th) Percentile: Represents the highest value found out of 90 percent of the samples taken in a representative group. If the 90th percentile is greater than the action level, it will trigger a treatment or other requirement that a water system must follow.

pCi/L: ***Picocuries per liter***. The *curie* is a standard measure for the intensity of radioactivity contained in a sample of radioactive material. It was named after French scientists Marie and Pierre Curie for their landmark research into the nature of radioactivity. The basis for the curie is the radioactivity of one gram of radium. Radium decays at a rate of about 2.2 trillion disintegrations (2.2x1012) per minute. A *picocurie* is one trillionth off a curie.

ppb: ***Parts per billion*****.** One ppb is equal to one microgram per liter. (ug/L)

ppm: ***Parts per million*****.** One ppm is equal to one milligram per liter. (mg/L)

Total Coliform: Bacteria that indicate whether other potentially harmful bacteria may be present.



What Is In Your Water?

The U.S. Environmental Protection Agency (EPA) is authorized by Congress to enforce the Safe Drinking Water Act Amendments of 1996 in regulating water systems for public health protection and establishing water standards. The 1996 Amendments require all water suppliers to issue a water quality report, called a consumer confidence report (CCR), to consumers on an annual basis. The Virginia Department of Health (VDH) has the responsibility for enforcing the Federal Water Quality Standards in the Commonwealth.

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.

All 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency (EPA) Safe Drinking Water Hotline at 800-426-4791.** 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 radioactive material and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be present in the water include:

• **Microbes:** (viruses or bacteria) from septic systems, agricultural livestock operations, wildlife and wastewater treatment plants

• **Inorganics:** such as salts and metals, which can occur naturally or result from storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming

• **Pesticides and herbicides:** from agriculture, urban runoff and residential uses

• **Organics:** 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

• **Radioactive:** contaminants, either naturally occurring or the result of oil and gas production or mining activities

What Do We Test For?

The **Safe Drinking Water Act of 1974 (SDWA)** has been amended most significantly in 1986 and 1996. These regulations govern drinking water quality. It sets the limits for contaminants in drinking water. These limits are represented in this report as MCLs, or the Maximum Contaminant Levels. The Food and Drug Administration (FDA) establishes limits for contaminants in bottled water, which must provide the same protection for public health as tap water. The Town of Round Hill is required to test for the presence of a number of organisms and chemicals. We submit the results to the Virginia Department of Health.

• **Bacteriological analysis of the treated water** is a *monthly* monitoring requirement. The analysis is reported based on the presence or absence of Total and Escherichia coliform. Total coliform bacteria may not be present in more than one monthly sample and E.coli may not be present in any sample.

• **Bacteriological analysis of the untreated water** (raw water) varies from a monthly to yearly monitoring requirement. This analysis is an important indicator of raw water quality and can trigger additional treatment requirements.

• **Volatile Organic Compounds** is a test for 56 different chemicals such as fuel derivatives and solvents. The analysis is initially performed quarterly and is reduced to annually and eventually every three years as repeated results show no detections of the chemicals.

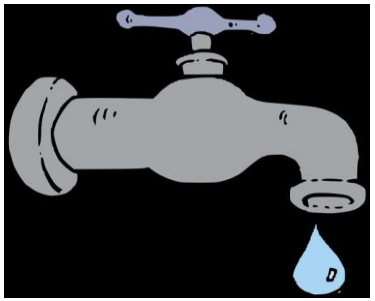
• **Radiological analyses** are performed for alpha and beta emitters. Samples are initially conducted quarterly and may eventually be reduced to once every six years after sufficient data shows low levels of results.

• **Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5)** are disinfection byproducts that can form in the water supply as chlorine reacts with organic matter. When ingested in large quantities, these chemicals are suspected human carcinogens, so these constituents are monitored closely. The legal limit for TTHMs is an annual average of 80 parts per billion (ppb). For HAA5 the limit is an annual average of 60 ppb. They are initially measured annually in small groundwater systems and eventually reduced to every three years.

• **Lead and copper** are measured at the point of use (generally a homeowner's kitchen sink). In small community water systems, five to 10 homes are sampled initially every six months. The frequency of sample collection is reduced to annually and subsequently to three years based upon consistently meeting the action limit unless a new water source is added to the system. If a new source is put into service the sampling period is again changed to more frequently.

• **Nitrite and nitrate** analysis is performed annually at each well source. The combined concentration of nitrate and nitrite may not exceed 10 ppm from any source.

• **Inorganics and metals** are analyzed every three years in groundwater systems to assure that none of the parameters exceed the respective MCLs.



Lead In Drinking Water

What is the EPA standard for lead in drinking water?
EPA has established an Action Level for lead in water of 15 parts per billion. When lead testing is performed as required by EPA, 90 percent of the samples must contain less than 15 ppb. This is usually referred to as the 90th percentile results being less than 15 ppb. The Action Level was not designed to measure health risks from water represented by individual samples. Rather, it is a statistical

trigger value that, if exceeded, may require more treatment, public education, and possibly lead service-line replacement where such lines exist. The Town is not aware of any lead service lines in its system.

Where does lead in drinking water come from?
In 1986, lead was banned from being used in pipe and solder in home construction. In older homes, where lead is present in pipe and solder connections, it may dissolve into the water after the water sits for long periods of time. Lead is rarely found in the water supply itself.

What can I do in my home to reduce exposure to lead in the drinking water?
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 Town of Round Hill is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components in home construction. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 15 to 30 seconds before use, or until it becomes cold or reaches a steady temperature before using the water for drinking or cooking. Use only cold water for drinking, cooking and making baby formula. If you are concerned about lead in your water, you may wish to have your water tested. Information about lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at epa.gov/safewater/lead. Or you can call the Hotline at **1-800-426-4791**.

How is Your Water Treated?

Your water is treated with chlorine for disinfection. Iron and manganese treatment is performed at several locations due to the natural presence of iron and manganese in these ground water supplies. Some of the wells utilized by the Town, however, are not currently treated for Iron and Manganese removal.

Fluoride is ***not*** added to any of the water sources for the Town. However, there is a natural occurrence of Fluoride in the Town's water supply.

Some customers choose to install filtration systems in their homes. If you choose to use a water filter, follow these three rules:
1. Choose one designed for the specific type of filtration desired (i.e. chlorine, lead, Cryptosporidium, etc.).
2. Make sure the filter is approved by the National Sanitation Foundation (www.nsf.org).
3. Clean and maintain the filter as directed.

Substances NOT detected in your drinking water

Your water was tested for several Regulated Volatile (VOC) and Synthetic Organic Chemicals (SOC) including petroleum-based products, pesticides, herbicides, and industrial chemicals. Additionally, your water was monitored for a number of inorganic chemicals for which the EPA has set MCLs. Contaminants other than those listed in the included table were not detected.

Source Water Protection

Source water is untreated water from lakes, rivers, streams, ponds, reservoirs, aquifers, and springs that serve as a community's water source. Protecting these water sources is an easy way to prevent drinking water from becoming polluted by managing possible sources of contamination.

How does source water protection benefit me?

1. Public health protection - Reduced threats to public health due to acute or chronic illness from exposure to contaminated water.
2. Economic benefits - Minimizes cost for water treatment, emergency replacement of water, and finding new supplies.
3. Environmental stewardship - Protection of rural lands, wildlife habitats, recreational areas and water quality of streams and wetlands.



How you can help protect source water:

Because human activity has such a profound impact on the quality of the water found in our streams, rivers, lakes and even subterranean sources, it is important that we all try to minimize activities that can degrade water quality. Here are some simple things that you can do in your yard and in your home.

• Pick up after your pet. Flush pet waste down the toilet or wrap securely and place in trash. • Refrain from swimming in known drinking water sources.
• Never dump anything in creeks or lakes.
• If you like boating, only participate in passive boating such as rowing, canoeing or kayaking instead of motorized boating.
• Compost yard waste and use natural fertilizers. Leave grass clippings on lawn as a natural fertilizer. Mow grass to proper height. Three inches is recommended.
• Use less fertilizer. The average homeowner uses ten times more fertilizer than is necessary. Test your soil before application.
• Apply fertilizer in the fall instead of spring to help reduce nitrogen and phosphorus runoff/leaching often caused by heavy rains.
• Plant trees along creeks. Plant native or well adapted plants that are likely to require less water, fertilizer, and pesticides. • Check and repair vehicle fluid levels.
• Reduce your use of household chemicals. Look for non-toxic cleaners.
• Don't pour chemicals down the drain! Dispose of household chemicals through a hazardous waste recycling program. Properly dispose of household cleaning products, paint, fertilizers, pesticides and expired/unused medications. Don't flush unused pharmaceuticals! Ask your pharmacist about proper disposal or contact the Loudoun County Sheriff's office to inquire of about a proper disposal facility.

Cross Connection Potential



The Town of Round Hill would like to make all customers aware that cross connections can occur when you leave your garden hose in a container or swimming pool and the siphon can cause the water to enter into the house plumbing if a pressure drop occurs with the system or your home. The Town of Round Hill has installed backflow prevention devices within your meter setter or the meter itself in some cases. This is a mechanical device that may help to prevent contaminants from entering the water system via the route of your cross connection.

Please be aware that all backflow prevention devices are mechanical and in that nature, can fail to activate upon a back flow situation. Remember to always keep your hose out of chemical sprayers, swimming pools and basins of water. If a pressure drop were to occur within your home; the water that the hose is in could be siphoned into your house plumbing. It is the homeowners' responsibility to make sure you provide an "air gap" between the ends of the hose and the actual water level. The recommended air gap is twice the diameter of the pipe or hose supplying the water. There are also atmospheric vacuum breakers that can be used to prevent backflow through hoses.

If you have any questions on backflow prevention or cross connection, please call the Utility Department at 540-338-4772.

Loss of Pressure in your home water lines

Loudoun County has required the installation of a **Pressure Reducing Valve** (PRV) or regulator for several years. All new construction is required to include such a device. A PRV is a type of safety valve used to control or limit the pressure in a system; pressure might otherwise build up and create instrument, piping or fixture failure. Use of these valves reduces the pressure of the water that goes through it, and is used to obtain a regulated and constant value at its outlet. It is installed on the water main for the house, usually near your main water line shutoff valve. It protects the whole installation from problems due to excess pressure, noises in the pipes, water hammer, splashes, premature wear of household electrical appliances and taps. The pressure reducing valves are completely automatic but do wear over time and may become clogged. If this occurs you may experience low volume, low pressure, or no water at all. These devices are the responsibility of the homeowner and should be checked by a responsible plumber should you find that your water supply volume has changed.

Ongoing Water System Improvements

The Town is continuing to work on improving both production and quality of the municipal drinking water provided. There are plans that are being submitted to Loudoun County for a second elevated tank that will assist in providing both quantity and pressure in the outlying areas. The Town is also continuing to loop dead end lines which aids in freshness and availability of water to new areas. Two of the untreated wells are scheduled to be incorporated into an existing Iron and Manganese removal facility which should help with the overall removal of these constituents from the system. Other sources of water are continually being considered and tested.



A Costly Oversight

A leaking toilet should *never* be ignored; it can be a very costly oversight. The "Dye Test" is very easy to do and is a useful tool in saving you money on your water and sewer bill. Because a leak inside of a toilet is often not visible or audible. Too many people can't believe their high water bills are due to a neglected toilet. Make sure you add this simple test to your home maintenance to-do list. If you are unsure how to perform this simple test please check at: http://www.conserveh2o.org/water-lost-toilet-leaks .

Emergency contact information

If you have a Utility emergency, contact the Town of Round Hill, Utility Department at 540-338-4772 ext. 1, or the Town Office at 540-338-7878 Monday through Friday between the hours of 8:30 am and 4:30 pm for all emergencies and general questions on rates, cutoffs and payments.

For **True *"emergency"*** situations, contact the Utility On-Call operator for water or sewer issues. After 5pm and before 8am contact the On-Call operator at 540-454-1975, please leave a message if asked to do so. If no one returns a call within 20 minutes, please contact the Town Administrator at 434-610-7598 and a staff member will be contacted immediately.

Water Quality for Town of Round Hill

Data collected in 2017 unless otherwise noted

Microbials	Highest Result	**MCLG	Typical Source	MCL*	Violation	Testing Frequency
Total Coliform Bacteria	All Absent	0	Naturally present in environment	None	No	Monthly
E.Coli Bacteria	All Absent	0	Occurs naturally in human and animal fecal waste	None	No	Monthly
*MCL - Presence in more than one sample each month						

Metal Components (Sample year 2016)	90th Percentile	**MCLG	Sites above Action Level	Typical Source	Action Level	Violation	Testing Frequency
Copper (ppm) (2016)	0.29	1.3	0	Corrosion of household plumbing	1.3	No	3 Years
Lead (ppb) (2016)	3.7	0	0	Corrosion of household plumbing	15	No	3 Years
Testing for L&C normally performed every 3 years unless a new source of water is added							

Other Chemicals & Radiologicals	Highest Level Detected	**MCLG	Typical Source	*MCL	Violation	Testing Frequency
Nitrate & Nitrite as Nitrogen, (ppm)	3.0	10	Runoff of fertilizer; leaching of septic tanks, sewage, Erosion of natural deposits	10	No	Annually
Gross Alpha (pCi/L) (2016)	2.17	0	Erosion of natural deposits	15	No	3 Years
Gros Beta (pCi/L) (2016)	4.35	0	Decay of natural and man-made deposits	50	No	3 Years
Combined Radium (pCi/L) (2016)	0.52	0	Erosion of natural deposits	5	No	3 Years
Fluoride (ppm)*(Naturally occuring)* (201	1.54	4	Erosion of natural deposits. Fluoride is not added by the Town	4	No	3 Years
These constituents are collected at each well on a routine cycle designated by VDH-ODW						

Disinfectant	System Average	****MRDLG	Typical Source	***MRDL	Violation	Testing Frequency
Chlorine, free (ppm) *(Running Avg)*	1.42	4	Water additive used to control microbes	4	No	Daily

Disinfectant By-Products	Highest Level Detected	**MCLG	Typical Source	*MCL	Violation	Testing Frequency
Total Haloacetic Acids (ppb) (2017)	9.6	N/A	By-product of drinking water disinfection	60	No	Annually
Total Trihalomethanes (ppb) (2017)	11	N/A	By-product of drinking water disinfection	80	No	Annually

Non-Regulated Contaminants	Highest Level Detected	**MCLG	Typical Source	*MCL	Violation	Testing Frequency
Hardness (ppm) *(average of all wells)* (2	259	N/A	Erosion of natural deposits. Naturally present	N/A	No	3 Years
Sodium (ppm) *(average of all wells)* (201	24.4	N/A	Erosion of natural deposits. Naturally present	N/A	No	3 Years

ppm = Parts per Million
ppb = Parts per Billion
pCi/L = Pico curies per liter are a measurement of the radioactivity in water.
*MCL = Maximum Contaminant Level
**MCLG - Max Contaminant Level Goal
***MRDL - Maximum Residual Detection Level
****MRDLG = Max Residual Detection Level Goal