

# ***Annual Drinking Water Quality Report Cana Water System***

## **INTRODUCTION**

This Annual Drinking Water Quality Report for calendar year 2011 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).

If you have questions about this report or 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: Dana Phillips, Assistant Director CCPSA at (276)730-3170 or Donald Webb, Water Operator 1 at (276)730-3174.

The time and location of regularly scheduled Carroll County Public Service Authority meetings is the second Monday of each month at 12:30 pm in the Supervisor Board Meeting Room on the 2<sup>nd</sup> floor of the Carroll County Governmental Center, Hillsville, VA 24343.

## **GENERAL INFORMATION**

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.

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).

**SOURCE(S) OF YOUR DRINKING WATER: The source(s) of your drinking water is groundwater wells as described below:**

Well # 1 – Located on SR 691 NE of the intersection of US 52 and SR 691	Well # 2 – Located on SR 691 NE of the intersection of US 52 and SR 691.
Well # 3 – Located Approx. South of Well # 2.	Well # 4 – Located on SR 688 NE of the intersection of US 52 and SR 688.
Well # 5 – Located approx. West of the intersection of US 52 and SR 588.	Well # 7 – Located on SR 688
Well # 8 – Located on Oak Ridge Church Road.	

**THE VIRGINIA DEPARTMENT OF HEALTH SOURCE WATER ASSESSMENT REPORT** dated April 4, 2002 states that Well # 1, Well # 2, Well # 3, Well # 4, Well # 5, Well # 7, and Well # 8 have a **High Susceptibility to Contamination** because the Groundwater Source is constructed in an area that promotes migration of contaminants with land use activities of concern and potential conduits to groundwater in Zone 1 assessment area and / or potential sources of contamination in the Zone 1 or Zone 2 assessment areas. **Information in this report is provided to aid in efforts toward Source Water Protection.** To obtain a copy of the complete assessment report, make a request to the Carroll co. PSA office at 605-2 Pine Street, Hillsville, VA 24343 ph. (276)730-3170.

**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>, 2010. 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:

*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.

*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.

*Action Level or (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 Residual Disinfectant Level Goal or MRDLG*-the level of 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.

*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.

The water from our wells is mixed within the distribution system. Therefore the results reported in the following tables are representative of all wells. Results from individual wells, where sampled, is available upon request.

## WATER QUALITY RESULTS

### Regulated Contaminants

Contaminant (units)	MCLG	MCL	Level Detected	Violation (Y/N)	Range	Date of Sample	Typical Source of Contamination
Nitrate, ppm	10	10	1.08	N	0.5-1.08	2011	Runoff from fertilizer use; Leaching from Septic tanks, Sewage; Erosion of natural deposits.
Alpha,Emitters pCi/L	0	15	5.9	N	1-5.9	2007, 2008 2009, 2011	Erosion of natural deposits
Combined Radium pCi/L	0	5	3.4	N	1.4-3.4	2007, 2008 2009 ,2011	Erosion of natural deposits
Chlorine (ppm)	Mrdlg= 4	Mrdl= 4	0.85	N	0.5-1.3	2011	Water additive used to control microbes
TTHMs (Total Trihalomethanes) ppb	N/A	80	2.8	N	ND-2.8	2009	Byproduct of drinking water disinfection
Haloacetic acids (ppb)	N/A	60	13	N	ND-13	2009	Byproduct of drinking water disinfection
Xylenes units (ppm)	10	10	0.0005	N	ND-0.0005	2010	Discharge from petroleum factories & from chemicals factories.

**LEAD & COPPER CONTAMINANTS**

Contaminant (units)	MCLG	Action Level	90 <sup>th</sup> Percentile	Date of Sampling	# of Sampling Sites Exceeding Action Level	Typical Source of Contamination
Lead ppb	0	15	2.1	2009	0	Corrosion of household plumbing Systems; erosion of natural deposits
Copper, ppm	1300	1.3	0.558	2009	0	Corrosion of household plumbing Systems; Erosion of natural Deposits; Leaching from wood preservatives

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 CARROLL 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 15 to 30 seconds 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, 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>.

**ADDITIONAL INFORMATION**

The water quality results in the above table are from testing done in 2011. However, the state allows us to monitor for some contaminants less than once a 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 SUMMARY:**

Your water system had no violations during 2011.

We welcome your questions and comments and look forward to your continued cooperation and support through the coming years to provide the safest water possible for all our communities.