

Annual Drinking Water Quality Report 2009

Town of Tazewell
PSWID #1185761

This Annual Drinking Water Quality Report for calendar year 2009 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 Town of Tazewell 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: **Jerry G. Wood, Town Manager at 276-988-2501.**

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: **Jerry G. Wood at 276-988-2501.**

The time and location of regularly scheduled board meetings are as follows: **2nd Tuesday of each month in the Town of Tazewell Council Chambers at 7:30pm.**

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. 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).

The Town of Tazewell purchases its water supply from the Tazewell County Public Service Authority. The sources of this water are surface water taken from the Clinch River, surface water taken from Lake Witten, and surface water taken from Cox's Branch Impoundment.

A source water assessment of our system was conducted in 2002 by the Virginia Department of Health. The Clinch River and Lake Witten were determined to be of high susceptibility and Cox's Branch Impoundment was determined to be of moderate 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 **Scott Kay at 276-988-9696.**

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.

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, **2009**. 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.

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 in excess of 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**

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. Tazewell 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, 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

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

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

WATER QUALITY RESULTS Regulated Contaminants

Contaminant (units)	MCLG	MCL	Level Detected	Violation (Y/N)	Range	Date of Sample	Typical Source of Contamination
Trihalomethanes (ppb)	N/A	80	32	N	16 - 42	2009	By-product of drinking water disinfection
Haloacetic Acids (ppb)	NA	60	38	N	23 - 55	2009	By-product of drinking water disinfection
Chlorine (ppm)	4.0	4.0	1.62	N	0.96 – 1.78	2009	Water additives to control microbes
Alpha emitters (pCi/L)	0	15	4.4	N	N/A	2008	Erosion of natural deposits
Combined radium (pCi/L)	0	15	0.3	N	N/A	2008	Erosion of natural deposits
Nitrate/Nitrite (ppm)	10	10	0.41	N	N/A	2009	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon	NA	TT, met when ≥ 1	1.19	N	1.0 – 2.47	2009	Naturally present in the environment
Fluoride (ppm)	4	4	0.81	N	N/A	2009	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Turbidity (NTU)	0	TT, 1 NTU max	0.18	N	N/A	2009	Soil runoff
		TT, ≤ 0.3 NTU 95% of the time	100%	N	N/A		

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	4	2007	0	Corrosion of household plumbing system; Erosion of natural deposits
Copper (ppm)	1.3	AL = 1.3	0.68	2007	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Cryptosporidium: In July, 2009 the Greater Tazewell Water Treatment Plant began monitoring for Cryptosporidium in the source water (before treatment) as required by EPA's Long Term 2 Enhanced Surface Water Rule (LT2ESWTR). Cryptosporidium is a microscopic parasite found in surface water throughout the United States. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Under the ST2ESWTR, the average Cryptosporidium concentration determines if additional treatment measures are needed. Six samples were analyzed during 2009 with the average Cryptosporidium concentration being 0 oocysts per liter for the six samples collected. Based on the Cryptosporidium monitoring results so far and the current performance of the treatment plant, we anticipate meeting the future treatment requirements of the LT2ESWTR.

The water quality results in table 1 are from testing done in 2009. 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.