

## 2007 Annual Drinking Water Quality Report

### Town of St. Paul, Virginia

We're pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our water source is the Clinch River. The Clinch River is a surface water source that originates in Tazewell County Virginia and meanders through Russell, Wise, and Scott Counties in Virginia before entering Tennessee.

The Virginia Department of Health conducted a source water assessment of our system during 2002. The Clinch River has been 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 five (5) years. The report is available by contacting Earl Carter at the phone number or address given elsewhere in this drinking water quality report. The report will also be available at the St. Paul Town Hall, located at 16531 Russell Street.

If you have any questions about this report or concerning your water utility, please contact Earl Carter Director of Public Works, at 276-762-9683. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. Meetings are held on the second Monday of each month at 6:00 PM in the Town Hall. The Town Hall is located at 16531 Russell Street

The Town of St. Paul Water Treatment Plant routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2007

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's Safe Drinking Water Hotline at 1-800-426-4791.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

**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.

**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.

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

**Maximum Contaminant Level** - The "Maximum Allowed" (MCL) is 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** - The "goal" (MCLG) is 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 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.

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

We have learned through our monitoring and testing that some constituents have been detected.

<b>TEST RESULTS Regulated Contaminants</b>							
Contaminant (Units)	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Typical Source of Contamination	Date
Turbidity (NTU)	N	< 0.3 NTU 100% of the time	NTU	N/A	TT, < 0.3 NTU 95%	Soil runoff	2007
Turbidity (NTU)	N	0.07	NTU	N/A	TT 1 NTU M AXIUM	Soil runoff	2007
Alpha emitters (Pci/l)	N	0.5	Pci/l	0	15	Erosion of natural deposits	02-04 2002
Combined Radium (Pci/l)	N	0.1	Pci/l	0	5	Erosion of natural deposits	02-04- 2002
Fluoride (ppm)	N	1.09	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	03-12 2007
Nitrate plus Nitrite Nitrogen (ppm)	N	0.95	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, seqag; erosion of natural deposits	03-12 2007

### TEST RESULTS Disinfectants/Disinfection by-products

Contaminant (Units)	Violation Y/N	Level Detected	Range	MCLG	MCL	Typical Source of Contamination	Date
Chlorine (ppm)	N	1.75	1.3 – 2.3	MRDLG = 4 ppm	MRDL = 4 ppm	Water additive used to control microbes	2007
Haloacetic Acids (ppb)	N	18	6 – 31	N/A	60 ppb	By-product of drinking water disinfection	2007
Total Trihalomethane (ppb)	Y	26	5 – 46	N/A	80 ppb	By-product of drinking water disinfection	2007
Total Organic Carbon Removal Ratio	N	0.93	1.00 – 3.87	N/A	TT In Compliance If $\leq 1.0$ or Alternate criteria is met	Naturally Present in the environment	2007

Our water system had a minimum TOC Removal Ratio (using the four quarter running annual averages) of 0.93 during the 1<sup>st</sup> quarter of 2007. However, the average treated water TOC was 1.3 mg/L for the four quarter running annual average for 1<sup>st</sup> quarter 2007. Therefore, your waterworks is in compliance with the treatment technique for control of disinfection byproduct precursors by meeting one of the alternative compliance criteria – having treated water TOC  $\leq 2.0$  mg/L calculated quarterly as a running annual average.

### TEST RESULTS Lead and Copper Contaminants

Contaminant (Units)	Violation Y/N	Action Level	90 <sup>th</sup> Percentile	MCLG	# Of Sampling Sites Exceeding Action Level	Typical Source of Contamination	Date
Lead (ppb)	N	15	< 5	0	0	Corrosion of household plumbing systems Erosion of natural deposits.	09-2005
Copper (mg/l)	N	1.3	< 0.050	1.3	0	Corrosion of galvanized pipes. Erosion of natural deposits. Leaching from wood preservatives.	09-2005

The water quality results in the above table are from testing done in 2007. 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.

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) Radio active 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, EMA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

MCLs are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standard EPA assumes the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCLs at level that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to a one-in-a-million chance of having the described health effect for other contaminants.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 (1-800-426-4791).

We at the Town of St. Paul Water Treatment Plant work constantly to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

If we can assist you in any way please contact us at 276-762-9683