

# **2011 ANNUAL DRINKING WATER QUALITY REPORT**

TOWN OF LAWRENCEVILLE  
PWSID NO. 5025450

## **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 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:

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|--|
| Randy Spence, at 434-848-2227 Supt. Of Water |
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The times and location of regularly scheduled board meetings are as follows:

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|--|
| Second Tuesday of each month at 7:30 PM. |
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## **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:

- 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 process 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.

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. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorder, 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 OF YOUR DRINKING WATER**

The source of your drinking water is surface water as described below.

Primary raw water intake is located on Great Creek with an auxiliary intake on the Meherrin River.

Treatment of the raw water consists of chemical addition, coagulation, flocculation, settling, filtration, fluoridation and chlorination. All of these processes work together to remove the physical, chemical, and biological contaminants to make the water safe for drinking.

A source water assessment of our system was conducted in March 2002 by the Virginia Department of Health. The Great Creek and Meherrin River were 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 with the last 5 years. The report is available by contacting your water system, The Town of Lawrenceville, Randy Spence, at the phone number or address given elsewhere in this drinking water quality report.

## **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 calendar year 2011. 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 within the detection limits of the instrument used.

*Parts per billion (ppb) or Micrograms per liter*- one part per billion corresponds to one minute in 2000 years or a single penny in \$10,000,000.

*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.

*Picocuries per liter (pCi/L)* - picocuries per liter is a measure of the radioactivity in water.

*Milirems per year (mrem/year)* - milirems per year is a measure of radiation absorbed by the body.

*Nephelometric Turbidity Unit (NTU)* - nephelometric turbidity unit is a measure of the cloudiness of the water. Turbidity in excess of 5 NTU is just noticeable to the average person.

*Action Level (AL)* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water systems must follow.

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

*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 Contaminant Level, or MCL*- the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLs as feasible using the best available treatment technology.

*Maximum Residual Disinfectant Level Goal or 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.

*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.

Abbreviations: N/A- Not Applicable

## WATER QUALITY RESULTS

| Contaminant                | MCLG   | MCL                                 | LEVEL FOUND | RANGE     | VIOLATION | DATE OF SAMPLE | TYPICAL SOURCE OF CONTAMINATION   |
|----------------------------|--|-------------------------------------|-------------|-----------|-----------|----------------|---|
| Total Coliform Bacteria    | MCL: 1 positive monthly sample   |                                     | 0           | NA        | No        | Monthly        | Naturally present in the environment  |
| Fecal coliform and E. Coli | MCL: a routine sample and a repeat sample are total coliform positive, and one is fecal coliform or E. Coli positive |                                     | 0           | NA        | No        | NA             | Human and animal feces  |
| Turbidity (NTU)**          | N/A  | TT,Max= 1 NTU                       | Max= 0.12   |           | No        | Continuous     | Soil Runoff   |
|                            |  | TT <= 0.3 (95 % of Monthly Samples) | 100%<0.3    | 0.02-0.12 |           |                |   |
| Fluoride(ppm)              | 4  | 4                                   | 1.12        | 0.93-1.24 | No        | Daily          | Water additive which promotes strong teeth  |
| Barium                     | 2  | 2                                   | 0.027       | N/A       | No        | 12/5/11        | Erosion of natural deposits   |
| Nitrate(ppm)               | 10   | 10                                  | 0.06        | N/A       | No        | 12/5/11        | Runoff from fertilizer use, Leaching from septic tanks, sewage; and erosion of natural deposits |
| Gross Alpha(pCi/L)         | 0  | 15                                  | <0.4        | N/A       | No        | 12/7/10        | Erosion of natural deposits   |
| Gross Beta (pci/L) ( 1)    | 0  | 50                                  | 2.3         | N/A       | No        | 12/7/10        | Decay of natural & manmade deposits   |

|                        |     |        |  |            |    |                                     |                             |
|------------------------|-----|--------|--|------------|----|-------------------------------------|-----------------------------|
| Combined Radium(pCi/L) | 0   | 5      | <0.7   | N/A        | No | 12/7/10                             | Erosion of natural deposits |
| Copper (ppm) (A)       | 1.3 | AL=1.3 | 90%=0.094 (2of40 samples exceeded the action level)  | ND-0.141   | No | 6/14/11-6/17/11<br>11/9/11-12/13/11 | Corrosion of plumbing.      |
| Lead(ppb)*             | 0   | AL=15  | 90%=3.78(0 of 40 samples exceeded the action level 0 | ND----12.1 | No | 6/14/11-6/17/11<br>11/9/11-12/13/11 | Corrosion of plumbing       |

### DISINFECTION BYPRODUCTS

| Contaminant                             | MCLG    | MCL  | Level Found       | Range     | Violation | Date of Sample                              | Typical Source of Contamination           |
|---|---------|--|-------------------|-----------|-----------|---|---|
| HAA5s(Total Haloacetic Acids)(ppb) (B)  | N/A     | 60   | 32                | 7-38      | No        | Quarterly Average of the past four quarters | By-product of drinking water disinfection |
| TTHMs(Total Trihalomethanes)(ppb) (C)   | N/A     | 80   | 76                | 43-108    | No        | Quarterly Average of the past four quarters | By-product of drinking water disinfection |
| TOC(Total Organic Carbon) Removal Ratio | N/A     | TT-TOC removal ratio greater than or equal to 1.00 | 1.33 lowest ratio | 1.33-1.62 | No        | Monthly                                     | Naturally present in the environment      |
| Chlorine (ppm)                          | MRDLG=4 | MRDL=4   | 1.7               | 0.2-1.7   | No        | Monthly at 5 Sites in System                | Water Additive To Control Microbes        |

**Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).**

**Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.**

\* : Lead- 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. Town of Lawrenceville Water Treatment Plant 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 at 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

A : Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a period of time could experience gastrointestinal distress. It is possible that copper levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated copper levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

B: Haloacetic acids-Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

C: TTHMs-Some people who drink water containing trihalomethanes in excess of the MCL over many years could experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

(1): The MCL for beta particles is 4 mrem/year. EPA considers 50 pci/L to be the level of concern for beta particles.

\*\* : Turbidity is a measure of the cloudiness of the water and is used because it is a good indicator of how well the filtration system is functioning.

We regularly monitor for various contaminants in the water supply to meet 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.

Most of the results in the table are from testing done in 2011. 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.

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 INFORMATION**

We are pleased to report to you that there were no detections of total coliforms or fecal coliforms in the monthly samples collected during calendar year 2011.

This Drinking Water Quality Report was presented by:

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