

# 2013 Drinking Water Quality Report

Community Systems

LOUDOUN  WATER

For the year ending 2012

## Introduction

Loudoun Water is pleased to present your annual water quality report. The information in this report represents data collected and reported in 2012, unless otherwise noted. The Safe Drinking Water Act of 1974 (SDWA) sets the limits for contaminants in drinking water. These limits are represented in this report as MCLs, or Maximum Contaminant Levels. The SDWA was amended most significantly in 1986 and 1996.

The tables you see in this report provide the actual data collected on your water throughout the year. Data tables on pages 9 – 15 show the quality of the water for customers in each community system.

Please contact us at any time to obtain our latest data. If your question or concern is not answered here, please let us know so we can get the answer for you. You may find your answers at [www.loudounwater.org](http://www.loudounwater.org) or you may call Customer Service during business hours Monday through Friday at 571.291.7880. For after hours emergencies, call 571.291.7878.

We invite you to attend our monthly Loudoun Water Board Meetings, usually held the second Thursday of each month at 3 p.m. in the Boardroom of our Administration office at 44865 Loudoun Water Way, Ashburn, VA 20147.

You can learn more about Loudoun Water board Meeting including upcoming meetings by visiting [www.boarddocs.com/va/lwva/Board.nsf/Public](http://www.boarddocs.com/va/lwva/Board.nsf/Public).

## Who Provides Your Water?

The Loudoun County Sanitation Authority, doing business as Loudoun Water, is a state-chartered authority, formed in 1959 by resolution by the Loudoun County Board of Supervisors under the Virginia Water and Waste Authorities Act.

Headquartered in Ashburn, Virginia, Loudoun Water provides water and wastewater service to residents and businesses in the unincorporated areas of Loudoun County, including community systems like yours. Loudoun Water's community drinking water systems currently serve more than 3,400 people in 6 communities.

Loudoun Water is a public body politic and corporate, which means that it does not make a profit and it operates under guidance of a nine-member Board appointed to four-year staggered terms by the County Board of Supervisors. Loudoun Water is a public agency, but its operations and finances are independent of the County's tax-supported services. Loudoun Water operates on the income provided through water and wastewater user fees. Water and wastewater lines created to serve new developments in Loudoun are paid for by the developers themselves. This ensures that current customers do not fund the development of infrastructure needed to serve new growth.



## Dear Loudoun Water Customer:



As Chairman of the Loudoun Water Board of Directors, I'm pleased to present our 2013 Annual Drinking Water Quality Report. I hope you will take the time to review this report. It provides detailed information about where your drinking water comes from, how it is treated and what tests we perform to ensure that your drinking water meets or exceeds all regulatory standards for quality and safety.

We believe that our customers share in our achievements. Great water quality goes hand-in-hand with healthy families, strong communities and a vibrant region. As a leading water authority in the United States, our strategic vision, innovative spirit and commitment to continual improvement helps secure the future of Loudoun County and our way of life. We are committed to delivering to you, our customers, exceptional water quality and we are dedicated to sustainable business practices in order to provide the best possible value to our customers and the communities we serve.

Thank you for taking time to read this report. Our staff is available to answer any questions that you may have. Please contact us if you would like our staff to speak in your community about our water quality, conservation or utility operations. For additional information about Loudoun Water, I encourage you to visit our website at [www.loudounwater.org](http://www.loudounwater.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Fred E. Jennings". The signature is fluid and cursive.

Fred E. Jennings  
Chairman  
Loudoun Water Board of Directors



## Dear Loudoun Water Customer:



At Loudoun Water, our practices are transparent, innovation is flowing and our mission is clear: we provide sustainable water services that protect the environment and promote the health and quality of life of our customers. Our 2013 Annual Drinking Water Quality Report, based on data from 2012, demonstrates that we are fulfilling this mission. I'm pleased to report that, once again, the drinking water that we provide our customers is of exceptional quality.

You may rarely think about your drinking water, where it comes from, how it is treated and tested, or the efforts needed to provide sustainable service. That's okay, because at Loudoun Water we think about all of this and more. By demonstrating that our water is meeting the rigorous standards set forth by USEPA and the Virginia Department of Health, I hope this report gives you further peace of mind. We take great pride in knowing that our customers can rely on our focused management, proactive workforce and attention to detail. Your confidence is our commitment to quality.

As always, we want to know what you think about the job we're doing and learn from you how we can improve. I encourage you to relay your comments to us by phone, email or via our website: [www.loudounwater.org](http://www.loudounwater.org). Thank you for taking time to learn more about us and the quality of your water.

Sincerely,

A handwritten signature in black ink that reads "Dale C. Hammes".

Dale C. Hammes  
General Manager



## Source Water Assessment

A Virginia Department of Health source water assessment for all groundwater systems served by Loudoun Water determined them to be highly susceptible to contamination using the state source water assessment program criteria. This assessment report consists of maps showing the source water area, an inventory of known land use activities of concern and documentation of any known contaminants. For more information about this report, please contact Beate Wright, Manager of Water Quality at (571) 291-7931, or [bwright@loudounwater.org](mailto:bwright@loudounwater.org).



## What is in Your Water?

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.

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, like 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), which has been amended most significantly in 1986 and 1996, governs 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.

Under the SDWA, Loudoun Water 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, as well as for radium 226 and 228. 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 we monitor for them closely. The legal limit for TTHMs is an annual average of 80 parts per billion (ppb). For HAA5 the limit is 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. This is then reduced first to annually and then three years based upon consistently meeting the action limit.
- Nitrite and nitrate analysis is performed annually. The combined concentration of nitrate and nitrite may not exceed 10 ppm.
- 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. (Loudoun Water does not have any lead service lines in its system.)

### Where does lead in drinking water come from?

Loudoun Water's raw water sources do not contain lead. 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.

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. Loudoun Water 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, or until it becomes cold or reaches a steady temperature before using the water for drinking or cooking. Use only cold water for 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead) or (800) 426-4791, TTY 711.

Some people choose to install filters in their homes. If you choose to use a water filter, follow these three rules:

1. Choose one designed for the specific filtration desired (chlorine, lead, *Cryptosporidium*, etc.).
2. Make sure the filter is approved by the National Sanitation Foundation ([www.nsf.org](http://www.nsf.org)).
3. Maintain the filter as directed.

### How can Loudoun Water assist in having the water in my house tested?

For information on having a lead-level test conducted, call our Customer Service Department at (571) 291-7880.



## Are You Vulnerable to Contaminants?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infections by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

## Water Quality Analysis and Results

We constantly monitor for various contaminants in the water supply to meet all regulatory requirements. The following tables list only those contaminants that are regulated and had some level of detection. If you have a question about a component not seen here, call us at (571) 291-7880.

## How is Your Water Treated?

Your water is treated with chlorine for disinfection. Iron and manganese treatment occurs at Beacon Hill and Selma Estates due to the natural presence of iron and manganese in these ground water supplies. At Raspberry Falls, corrosion control in the water system is provided by adding phosphoric acid. At Selma Estates, zinc phosphate is added for corrosion control. Fluoride is added to

the Selma Estates and Village Green at Elysian Heights water systems.

## Where Does Your Water Come From?

Groundwater is supplied by wells located in the development:

- **Beacon Hill** – Two wells.
- **Raspberry Falls** – Two wells. A new Well F was brought on line for a short period of time in 2011 then taken off line following elevated turbidity in the raw water caused by hydraulic problems with the raw water line. Following improvements to the raw water line and extensive water quality testing, Well F was returned to service in May 2012.
- **Lenah Run** – Three wells.
- **Rokeby** – Four wells.
- **Village Green** – Five wells (one of which is an emergency well if needed).
- **Selma** – Three wells (Well 12E was brought on line in August 2012, a fourth well will be brought on line in early 2013).



## Water Quality in Beacon Hill

Inorganics and Metals	Highest Result	MCL	MCLG	Typical Source	Violation
Barium <sup>1</sup> (ppm)	0.28	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Fluoride <sup>1</sup> (ppm)	0.17	4.0	4.0	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	No
Nitrate/Nitrite [as Nitrogen] (ppm)	0.11	10	10	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits	No
Microbials	Highest Result	MCL	MCLG	Typical Source	Violation
Total Coliform Bacteria	All Absent	Cannot be detected in more than one monthly sample	0	Naturally present in environment	No
Fecal Coliform Bacteria	All Absent	A routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive	0	Human and animal fecal waste	No
Organics	Highest Quarterly Running Annual Average	MCL	MCLG	Typical Source	Violation
Total Trihalomethanes <sup>1</sup> (ppb)	6.77	80	N/A	By-product of drinking water disinfection	No
Haloacetic Acids (ppb)	2.97	60	N/A	By-product of drinking water disinfection	No
Component	Highest Quarterly Running Annual Average	MRDL	MRDLG	Typical Source	Violation
Chlorine (ppm)	1.44	4	4	Water additive used to control microbes	No
	<b>RANGE (INDIVIDUAL TEST RESULTS)</b>				
	0.54 – 2.16				
Radiologicals	Highest Result	MCL	MCLG	Typical Source	Violation
Combined Radium 226 and 228 <sup>2</sup> (pCi/L)	1.5	5	0	Erosion of natural deposits	No
Alpha emitters <sup>2</sup> (pCi/L)	3.2	15	0	Erosion of natural deposits	No
Beta/photon emitters (pCi/L) <sup>2,3</sup>	4.7	4	0	Decay of natural and man-made deposits	No

Metal Components	90th Percentile Level	Action Level	MCLG	Number Of Sites Above Action Level	Typical Source	Violation
Copper <sup>4</sup> (ppm)	0.44	1.3	0	0	Corrosion of household plumbing	No
Lead <sup>4</sup> (ppb)	ND	15	0	0	Corrosion of household plumbing	No

<sup>1</sup> Samples taken in 2010. Next required testing is 2013.<sup>2</sup> Samples taken in 2010. Next required testing is 2016.<sup>3</sup> The MCL for Beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.<sup>4</sup> Samples taken in 2011. Next required testing is 2014.



## Notice To Customers Of The Beacon Hill Water System

In keeping with the National Primary Drinking Water Regulations, we are obliged to inform you that Loudoun Water may be in violation of state regulations. We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During November 2012 we did not monitor or test for coliform bacteria and disinfectant residual, therefore we cannot be sure of the quality of our drinking water during that time and the health effects of not sampling are unknown.

One routine sample for bacteriological analysis was required and none were analyzed. Disinfection residual measurement, required at the same time as the collection of the bacteriological samples, was also not analyzed. Past records show that the system has had no problems with bacteriological contamination and the routine samples for all other months in 2012 were taken and found no bacteriological contamination and acceptable chlorine residual was maintained.

### There is nothing you need to do at this time.

We are attempting to prevent further violations by ensuring that all required sampling in our distribution system is done in accordance with the state drinking water regulations. Future violations will be reported as required by state regulations in order to increase consumers' awareness of conditions that exist in their public water system. For more information about this report, please contact Beate Wright, Manager of Water Quality at 571-291-7931, or [bwright@loudounwater.org](mailto:bwright@loudounwater.org).



### Water Quality in Village Green at Elysian Heights

Inorganics and Metals	Highest Result	MCL	MCLG	Typical Source	Violation
Nitrate/Nitrite [as Nitrogen] (ppm)	4	10	10	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits	No
Barium <sup>1</sup> (ppm)	0.13	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Fluoride <sup>2</sup> (ppm)	0.6	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	No
Microbials	Highest Result	MCL	MCLG	Typical Source	Violation
Total Coliform Bacteria	All absent	Cannot be detected in more than one monthly sample	0	Naturally present in environment	No
Fecal Coliform Bacteria	All absent	A routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive	0	Human and animal fecal waste	No
Organics	Highest Quarterly Running Annual Average	MCL	MCLG	Typical Source	Violation
Total Trihalomethanes <sup>1</sup> (ppb)	6.62	80	N/A	By-product of drinking water disinfection	No
Haloacetic Acids <sup>1</sup> (ppb)	1.35	60	N/A	By-product of drinking water disinfection	No
Component	Highest Quarterly Running Annual Average	MRDL	MRDLG	Typical Source	Violation
Chlorine (ppm)	1.33	4	4	Water additive used to control microbes	No
	<b>RANGE</b>				
	0.9 – 1.60				
Radiologicals	Highest Result	MCL	MCLG	Typical Source	Violation
Alpha emitters <sup>2</sup> (pCi/L)	7.4	15	0	Erosion of natural deposits	No
Beta/photon emitters <sup>2,3</sup> (pCi/L)	4.4	4	0	Decay of natural and man-made deposits	No

<sup>1</sup> Samples taken in 2010. Next required testing is 2013.<sup>2</sup> Samples taken in 2010. Next required testing is 2016<sup>3</sup> The MCL for Beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.

Metal Components	90th Percentile Level	Action Level	MCLG	Number Of Sites Above Action Level	Typical Source	Violation
Copper <sup>1</sup> (ppm)	0.2	1.3	0	0	Corrosion of household plumbing	No
Lead <sup>1</sup> (ppb)	ND	15	0	0	Corrosion of household plumbing	No

<sup>1</sup> Sample taken in 2011. Next required testing is 2014.

### Water Quality in Lenah Run

Inorganics and Metals	Highest Result	MCL	MCLG	Typical Source	Violation
Nitrate/Nitrite [as Nitrogen] (ppm)	2.5	10	10	Runoff from fertilizer use; leaching from septic tanks; erosion of natural deposits	No
	<b>RANGE</b>				
	2.4 – 2.5				
Arsenic <sup>1</sup> (ppb)	6.1	10	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	No
	<b>RANGE</b>				
	5.3 – 6.1				
Barium <sup>2</sup> (ppm)	0.3	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
	<b>RANGE</b>				
	0.16 – 0.3				
Microbials	Highest Result	MCL	MCLG	Typical Source	Violation
Total Coliform Bacteria	All absent	Cannot be detected	0	Naturally present in environment	No
Fecal Coliform Bacteria	All Absent	A routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive	0	Human and animal fecal waste	No
Organics	Highest Quarterly Running Annual Result	MCL	MCLG	Typical Source	Violation
Total Trihalomethanes <sup>3</sup> (ppb)	8.74	80	N/A	By-product of drinking water disinfection	No
Haloacetic Acids <sup>3</sup> (ppb)	2.23	60	N/A	By-product of drinking water disinfection	No
Component	Highest Quarterly Running Annual Average	MRDL	MRDLG	Typical Source	Violation
Chlorine (ppm)	1.32	4	4	Water additive used to control microbes	No
	<b>RANGE</b>				
	0.50 – 1.50				
Radiologicals	Highest Result	MCL	MCLG	Typical Source	Violation
Combined Radium 226 / 228 <sup>4</sup> (pCi/L)	2.6	5	0	Erosion of natural deposits	No
	<b>RANGE</b>				
	0.3 – 2.6				
Alpha emitters <sup>4</sup> (pCi/L)	5.3	15	0	Erosion of natural deposits	No
	<b>RANGE</b>				
	2.2 – 5.3				

<sup>1</sup> Sample taken in 2010 was 6.1 ppb. Sample taken in 2011 was 5.3 ppb. While your drinking water meets EPA standards for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water.

EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

<sup>2</sup> Sample taken in 2010 was 0.16 ppm. Sample taken in 2011 was 0.3 ppm.

<sup>3</sup> Samples taken in 2010. Next required testing in 2013.

<sup>4</sup> Samples taken in 2007 and 2010. Next required testing in 2013 and 2016.

Metal Components	90th Percentile Level	Action Level	MCLG	Number Of Sites Above Action Level	Typical Source	Violation
Copper (ppm)	0.6	1.3	0	0	Corrosion of household plumbing	No
Lead (ppb)	ND	15	0	0	Corrosion of household plumbing	No

<sup>1</sup> Samples taken in 2011. Next required testing is 2014.



### Water Quality in Raspberry Falls

Inorganics and Metals	Highest Result	MCL	MCLG	Typical Source	Violation
Nitrate/nitrite [as nitrogen] (ppm)	4.1	10	10	Runoff from fertilizer; leaching from septic tanks, erosion of natural deposits	No
Barium (ppm)	0.043	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Microbials	Highest Result	MCL	MCLG	Typical Source	Violation
Total Coliform Bacteria	All absent	Cannot be detected in more than one monthly sample	0	Naturally present in environment	No
Fecal Coliform Bacteria	All Absent	A routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive	0	Human and animal fecal waste	No
Organics	Highest Quarterly Running Annual Average	MCL	MCLG	Typical Source	Violation
Total Trihalomethanes (ppb)	0.53	80	N/A	By-product of drinking water disinfection	No
Haloacetic Acids (ppb)	ND	60	N/A	By-product of drinking water disinfection	No
Component	Highest Quarterly Running Annual Average	MRDL	MRDLG	Typical Source	Violation
Chlorine (ppm)	1.45	4	4	Water additive used to control microbes	No
	<b>RANGE</b>				
	0.90 – 2.20				
Radiologicals	Highest Result	MCL	MCLG	Typical Source	Violation
Combined Radium 226 / 228 (pCi/L)	0.3	5	0	Erosion of natural deposits	No
	<b>RANGE</b>				
	ND – 0.3				
Beta/photon emitters <sup>1</sup> (pCi/L)	1.8	4	0	Decay of natural and man-made deposits	No
	<b>RANGE</b>				
	ND – 1.8				

<sup>1</sup>The MCL for Beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.

Metal Components	90th Percentile Level	Action Level	MCLG	Number Of Sites Above Action Level	Typical Source	Violation
Copper (ppm)	0.2	1.3	0	0	Corrosion of household plumbing	No
Lead (ppb)	ND	15	0	0	Corrosion of household plumbing	No



### Water Quality in The Reserve at Rokeby

Inorganics and Metals	Level Detected	MCL	MCLG	Typical Source	Violation
Nitrate/nitrite [as nitrogen] (ppm)	3.4	10	10	Runoff from fertilizer; leaching from septic tanks, erosion of natural deposits	No
Barium <sup>1</sup> (ppm)	0.11	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Fluoride <sup>1</sup>	0.11	4.0	4.0	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	No
Microbials	Highest Result	MCL	MCLG	Typical Source	Violation
Total Coliform Bacteria	All absent	Cannot be detected in more than one monthly sample	0	Naturally present in environment	No
Fecal Coliform Bacteria	All Absent	A routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive	0	Human and animal fecal waste	No
Organics	Highest Quarterly Running Annual Average	Action Level	MCLG	Typical Source	Violation
Total Trihalomethanes (ppb)	0.51	80	NA	By-product of drinking water disinfection	No
Haloacetic Acids (ppb)	ND	60	NA	By-product of drinking water disinfection	No
Component	Highest Quarterly Running Annual Average	MRDL	MRDLG	Typical Source	Violation
Chlorine (ppm)	1.2	4	4	Water additive used to control microbes	No
	<b>RANGE</b>				
	1.0 – 1.6				
Radiologicals	Highest Result	MCL	MCLG	Typical Source	Violation
Combined Radium 226 / 228 (pCi/L)	0.2	5	0	Erosion of natural deposits	No
Beta/photon emitters <sup>2</sup> (pCi/L)	2.5	4	0	Decay of natural and man-made deposits	No

<sup>1</sup> Samples taken in 2011. Next required testing is 2014.<sup>2</sup> The MCL for Beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.

Metal Components	90th Percentile Level	Action Level	MCLG	Number Of Sites Above Action Level	Typical Source	Violation
Copper <sup>3</sup> (ppm)	0.08	1.3	0	0	Corrosion of household plumbing	No
Lead <sup>3</sup> (ppb)	3	15	0	0	Corrosion of household plumbing	No

<sup>3</sup> Samples taken in 2011. Next required testing is 2014.

Water Quality in Selma					
Inorganics and Metals	Highest Result	MCL	MCLG	Typical Source	Violation
Nitrate/nitrite [as nitrogen] (ppm)	2.0	10	10	Runoff from fertilizer; leaching from septic tanks, erosion	No
	<b>RANGE</b>				
	0.61 – 2.0				
Barium (ppm)	0.074	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Fluoride (ppm)	0.66	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	No
Microbials	Highest Result	MCL	MCLG	Typical Source	Violation
Total Coliform Bacteria	All absent	Cannot be detected in more than one monthly sample	0	Naturally present in environment	No
Fecal Coliform Bacteria	All Absent	A routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive	0	Human and animal fecal waste	No
Organics	Highest Quarterly Running Annual Average	Action Level	MCLG	Typical Source	Violation
Total Trihalomethanes (ppb)	14.8	80	NA	By-product of drinking water disinfection	No
Haloacetic Acids (ppb)	5.14	60	10,000	By-product of drinking water disinfection	No
Component	Highest Quarterly Running Annual Average	MRDL	MRDLG	Typical Source	Violation
Chlorine (ppm)	1.25	4	4	Water additive used to control microbes	No
	<b>RANGE</b>				
	0.70 – 1.70				

Metal Components	90th Percentile Level	Action Level	MCLG	Number Of Sites Above Action Level	Typical Source	Violation
Copper (ppm)	0.1	1.3	0	0	Corrosion of household plumbing	No
Lead (ppb)	ND	15	0	0	Corrosion of household plumbing	No



## Glossary

### 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.

**mrems/year:** Millirems per year. A measurement of radiation absorbed by the body.

**ND:** Non-detect. Levels were 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.

**NRL:** No regulatory limit.

**NTU:** Nephelometric Turbidity Unit.

**PCi/L:** Picocuries per liter.

**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.

**TT:** Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.



## Every Drop Counts!

Did you know that you can reduce your water use by installing more water-efficient fixtures and landscape irrigation controls? Through the U.S. Environmental Protection Agency's WaterSense® program, you can identify a range of certified products to help you use water more wisely and save money on your water bill. Visit the WaterSense website at [www.epa.gov/watersense](http://www.epa.gov/watersense) to learn more about what you can do to make every drop count. To calculate your water use, estimate your water bill, and to learn about more ways to save water please visit [www.loudounwater.org/Residential-Customers/Conservation/](http://www.loudounwater.org/Residential-Customers/Conservation/).



## Have You Visited the Aquary® Yet?

### Grab the kids and learn about water.

The Loudoun Water Aquary is an interactive indoor educational center and outdoor interpretive trail. Walk through 3,500 sq. feet of exhibits as you learn the story of drinking water treatment and delivery; source water protection; water conservation and water reclamation. Then enjoy the outdoor trails as you walk along a wetland area and learn more about its features.

The Aquary is a unique destination in Loudoun. We hope to see you soon. Normal Aquary hours: Self-guided tours: M–F, 8:00am–5:00pm; trails are open anytime.

Schools and groups can schedule a tour online at [www.loudounwater.org](http://www.loudounwater.org), click on Talks and Tours.

Visit [www.loudounwater.org](http://www.loudounwater.org)  
for directions.  
44865 Loudoun Water Way  
Ashburn, Virginia



## Did you get our email?

Our bill stuffer, called the NewsLeak, is now available as a quarterly newsletter by email. Responding to hundreds of requests from you to do so, we have replaced the bill stuffer that used to come with your bill with this electronic format. Sign up to receive news and information related to your water and sewer service. Just visit our website and type in your email address on our home page under "Sign up for our quarterly E-newsletter." You'll receive the newsletter in April, July, October and January.



You can also sign up to receive RSS feeds from us and our Water We Thinking? blog by clicking on "Register for Web Alerts" on our homepage.





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