

## 2012 DRINKING WATER QUALITY TEST RESULTS

Over 120 substances are regularly monitored in your drinking water, according to Federal and State regulations to ensure the production of high quality water. The table lists all substances that were detected during the 2012 calendar year. All substances were below regulatory limits. For a more complete list of substances that were analyzed please visit our website at [www.greensboro-nc.gov/water](http://www.greensboro-nc.gov/water) or call 373-7527.

### MONITORED LEAVING THE TREATMENT PLANT

SUBSTANCE OR CHARACTERISTIC	UNIT	HIGHEST LEVEL ALLOWED MCL	IDEAL GOAL MCLG	ANNUAL COMPLIANCE TESTS	AVERAGE OF ROUTINE TESTING	RANGE OF ROUTINE TESTING	POTENTIAL SOURCE OF SUBSTANCE
Aluminum	mg/L	SS	0.20	N/A	T 0.01 M 0.05	T <0.01-0.06 M <0.01- 0.15	Residual from the treatment process
Chloride	mg/L	SS	250	N/A	T 13.7 M 13.0	T 6.24-18.3 M 5.79-20.9	Naturally present in the environment; treatment process
Chlorine, Total residual <sup>1</sup>	mg/L	4.0 MRDL	4.0 MRDLG	N/A	T 3.04 M 3.06	T 1.8-3.9 M 1.8-3.9	Water additive used to control microbes
Chloramines	mg/L	4.0 MRDL	4.0 MRDLG	N/A	T 2.54 M 2.61	T 1.1-3.4 M 1-3.7	Water additive used to control microbes
Color	CU	SS	15	N/A	T 1.8 M 2.2	T <1-9 M <1-10	—
Free Ammonia	mg/L	N/R	—	—	T <0.05 M <0.05	T 0-0.2 M 0-0.54	—
Fluoride	mg/L	4.0	2.0	T 0.54 M 0.13	T 0.49 M 0.32	T 0.09-0.89 M 0.06-0.72	Water additive which promotes strong teeth
Hardness, Total <sup>2</sup>	mg/L	NR	—	N/A	T 44 M 43	T 23-67 M 20-65	Natural deposits and the treatment process
Iron	mg/L	SS	0.300	T <0.060 ND M <0.060 ND	T 0.02 M 0.02	T <0.01-0.17 M <0.01-0.18	—
Manganese	mg/L	SS	0.050	T <0.010 ND M <0.010 ND	T <0.01 ND M .01	T <0.01-0.06 M <0.01-0.12	—
Nitrate as Nitrogen	mg/L	10.0	10	T <1.00 ND M <1.00 ND	T 0.32 M 0.43	T 0.10-0.92 M 0.10-0.79	Fertilizer runoff; sewage; natural deposits
pH	SU	SS	7.5–9.2	-	-	T 7-9.1 M 7-8.9	—
Phosphorus, Total	mg/L	N/R	N/A	N/A	T 2.33 M 2.17	T 1.38-5.48 M 0.73-3.44	Fertilizer runoff; Corrosion control treatment
Sodium	mg/L	N/R	N/A	T 17.40 M 19.86	T 15.0 M 17.3	T 6.6-24 M 11.2-25	Naturally occurring minerals in the soil
Sulfate	mg/L	SS	250	T 28 M 33	T 35.5 M 42.7	T 0.1-121 M 7.6-77.6	Naturally occurring minerals in the soil
Total Dissolved Solids (TDS)	mg/L	SS	500	N/A	T 108 M 116	T 70-159 M 80-157	Erosion of natural deposits; treatment process
Total Organic Carbon <sup>3</sup>	mg/L	TT	N/A	N/A	T 2.15 M 1.90	T 1.68-2.71 M 1.34-2.18	Naturally present in the environment
Turbidity <sup>4</sup>	NTU	TT	N/A	N/A	T 0.05 M 0.11	T 0.02-0.17 M 0.06-0.36	Soil runoff
						T 99.99% <0.30 M 100% <0.30	
Zinc	mg/L	SS	5.0	—	T <0.01 ND M <0.01 ND	T <0.01-0.03 M <0.01-0.01	Corrosion of plumbing fixtures; industrial waste

### MONITORED IN DISTRIBUTION SYSTEM

Chlorine, Total residual <sup>5</sup>	mg/L	4.0 MRDL	4.0 MRDLG	N/A	2.18	<0.01-3.70	Disinfection additive used to control microbes
Total Coliform <sup>7</sup>	–	5.0% positive	zero	N/A	1.23%	-	Naturally present in the environment
E.coli <sup>10</sup>	–	zero	zero	N/A	0.00%	-	Human and animal fecal waste
Total Trihalomethanes TTHM <sup>8</sup>	µg/L	80	N/A	N/A	RAA 51.8	24.9-88.4	By-product of drinking water disinfection
Total Haloacetic Acids HAA5 <sup>9</sup>	µg/L	60	N/A	N/A	RAA 37.5	25.5-57.2	By-product of drinking water disinfection

### MONITORED AT THE CUSTOMER'S TAP

Lead <sup>6</sup>	µg/L	15.0 AL	zero	100% of the homes were below AL	< 3-9	Corrosion of Household Plumbing
Copper <sup>6</sup>	µg/L	1.30 AL	1.30	100% of homes tested were below AL	< 0.05-0.28	Corrosion of Household Plumbing

<sup>1</sup> Chlorine residual tested every two hours and monitored continuously on-line

<sup>2</sup> Considered to be moderately soft

<sup>3</sup> Compliance based on 45-50% removal

<sup>4</sup> 99.99% of samples were <0.30. The EPA requirement is 95%

<sup>5</sup> Tested at each bacteriological sample site

<sup>6</sup> A minimum of 100 at-risk homes tested over a six month period by a state certified lab for lead and copper; All consumer complaints tested for lead and copper by the Water Resources lab.

<sup>7</sup> 2 of the 162 monthly samples tested positive for Total Coliform Bacteria. No violations occurred.

<sup>8</sup> Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk for getting cancer.

<sup>9</sup> Some people who drink water containing Haloacetic Acids in excess of the MCL over many years may have an increased risk for getting cancer.

<sup>10</sup> The MCL is exceeded if a routine sample and repeat sample are Total Coliform positive, and one is also Coliform or E. Coli positive. Zero positives of 2,169 samples tested.

## KEY ABBREVIATIONS USED IN THE TABLE (located on the left)

<-**Less than symbol:** Below the detection limit of the instrument

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

**CU-Color Units**

**M-Mitchell Water Plant:** Located in central Greensboro, with source water supplied by Lake Brandt.

**MCL-Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water; are set as close to the MCLGs as feasible using the best available treatment technology. A person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of it affecting their health.

**MCLG-Maximum Contaminant Level Goal:** 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 and are non-enforceable public health goals.

**MRDL-Maximum Residual Disinfectant Level:** 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.

**MRDLG-Maximum Residual Disinfectant Level Goal:** 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.

**mg/L-Milligrams per Liter:** Equivalent to Parts per Million (ppm); Corresponds to one penny in \$10,000 or one minute in two years.

**N/A-Not Applicable:** Information not applicable/not required for the water system or for that rule.

**ND-Non-Detects:** Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

**N/R-Not Regulated:** Unregulated contaminants are those for which EPA has not established drinking water standards; Used by EPA to determine the occurrence of the unregulated contaminant.

**NTU-Nephelometric Turbidity Unit:** Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**RAA-Running annual average** for each plant, computed quarterly.

**SS-Secondary Standards:** Non-enforceable guidelines for drinking water due to aesthetic considerations such as taste, color, and odor; Substances are not considered a risk to human health at the established levels.

**SU-Standard Units**

**T-Townsend Water Plant:** Located northeast of Greensboro, with source water supplied by Lake Townsend.

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

**µg/L-Micrograms per Liter:** Equivalent to Parts per Billion (ppb); Corresponds to one penny in \$10,000,000 or one minute in 2,000 years.

## SOURCE WATER ASSESSMENT PROGRAM (SWAP) RESULTS

The North Carolina Department of Environment and Natural Resources (NCDENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information, and a relative susceptibility rating of Higher, Moderate, or Lower.

The relative susceptibility rating of each source for the City of Greensboro was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area). The assessment findings are summarized in the below:

### Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Lake Brandt	Higher	February 19, 2010
Lake Townsend	Higher	February 19, 2010

The complete SWAP Assessment report for the City of Greensboro may be viewed on the Web at: [www.ncwater.org/pws/swap](http://www.ncwater.org/pws/swap). Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email the request to [swap@ncdenr.gov](mailto:swap@ncdenr.gov). Please indicate your system name (City of Greensboro), PWS ID (02-41-010), and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098. It is important to understand that a susceptibility rating of “higher” does not imply poor water quality, only the system’s potential to become contaminated by PCS’s in the assessment area.

## QUESTIONS AND PUBLIC INVOLVEMENT ARE WELCOME

Water Resources is a department within the City of Greensboro local government, and is responsible for the operation and maintenance of the City’s drinking water system.

Greensboro City Council meetings are held at 5:30 pm on the first and third Tuesday of each month in the Melvin Municipal Office Building at 300 West Washington Street.

If you have any questions about this report or concerns about your Greensboro City Water quality, please contact the Water Quality Laboratory at 373-7527.

For questions about your water bill or your meter, please call 373-2489.

If you have well water and have questions about your water quality, contact Guilford County Water Quality Department at 641-7613.

To learn more about Water Resources visit: [www.greensboro-nc.gov/water](http://www.greensboro-nc.gov/water).

To report water main breaks, sanitary sewer backups, sewer overflows, or other system maintenance concerns, please call the Water Resources dispatcher at 373-2033.

For more drinking water information, visit EPA’s website at <http://water.epa.gov/drink>.





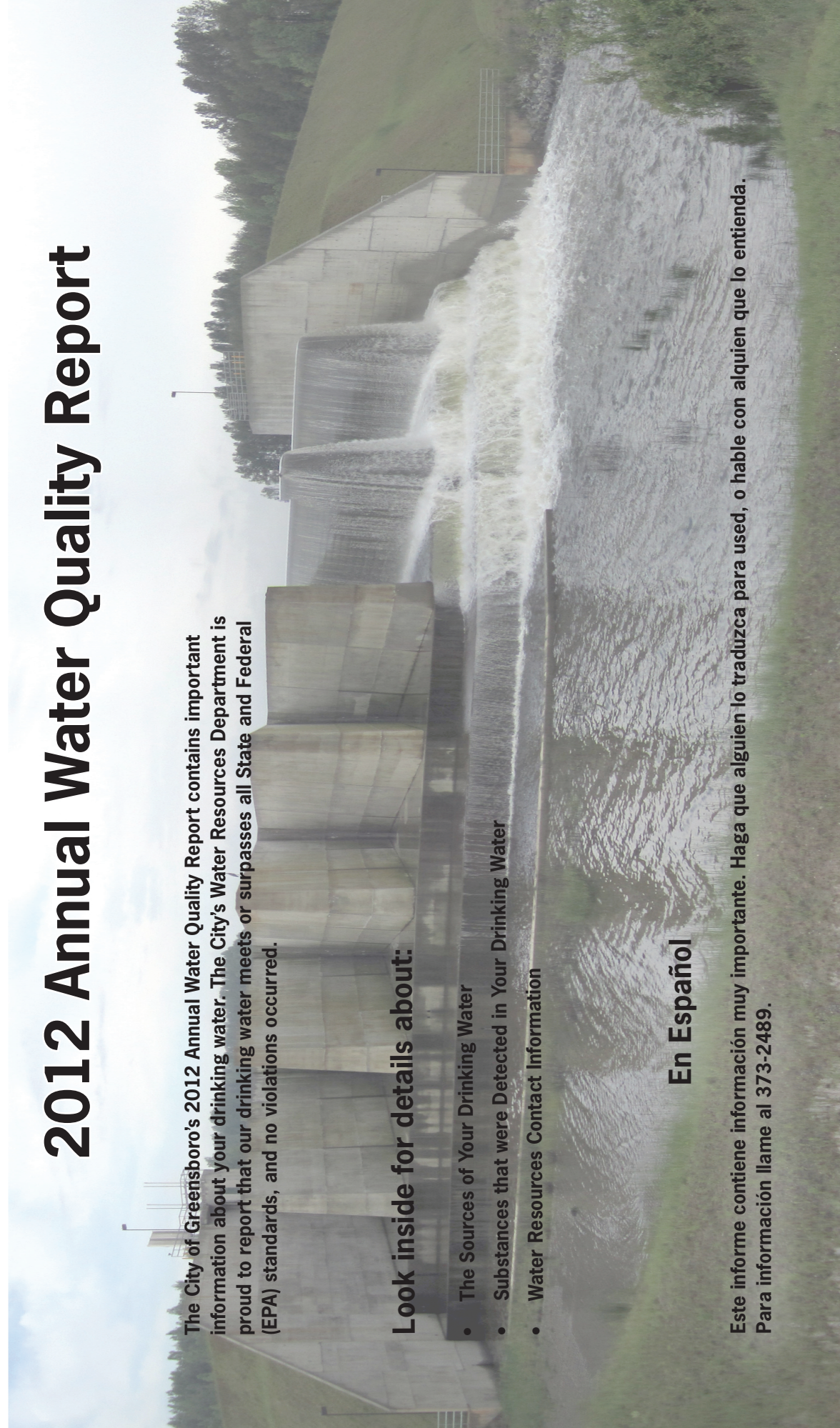
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# 2012 Annual Water Quality Report



The City of Greensboro's 2012 Annual Water Quality Report contains important information about your drinking water. The City's Water Resources Department is proud to report that our drinking water meets or surpasses all State and Federal (EPA) standards, and no violations occurred.

## Look inside for details about:

- The Sources of Your Drinking Water
- Substances that were Detected in Your Drinking Water
- Water Resources Contact Information

## En Español

Este informe contiene información muy importante. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda. Para información llame al 373-2489.

# City of Greensboro 2012 Annual Water Quality Report

PWS# 02-41-010

The City of Greensboro is pleased to provide you with the 2012 Water Quality Report. The Federal Safe Drinking Water Act requires all public water systems to provide this report to its customers. The report presents information about our water system and the quality of our water. Our constant goal is to provide a safe and dependable supply of drinking water. The City's Water Resources Department is proud to report that our drinking water meets or surpasses all State and Federal (EPA) standards, and no violations occurred in our system.

## GREENSBORO'S WATER SOURCES

Greensboro depends upon three surface water sources to supply our water: Lake Townsend, Lake Brandt and Lake Higgins. These lakes are located in northern Guilford County in the upper Cape Fear River Basin within a protected watershed. When full, Greensboro's three water reservoirs hold about eight billion gallons of water. Water from Lake Brandt is treated at the Mitchell Water Treatment Plant and water from Lake Townsend is treated at the Townsend Water Treatment Plant. Lake Higgins is used to refill Lake Brandt as needed.

Greensboro's water system serves approximately 275,000 people with an average daily water demand of 33.7 million gallons per day in 2012. During 2012 the City of Greensboro purchased water from Reidsville, Burlington, and the Piedmont Triad Regional Water Authority. To obtain Water Quality Reports from these systems, please contact the following:

<b>City of Reidsville</b>	<b>(336) 349-1070</b>	<b>City of Burlington</b>	<b>(336) 222-5133</b>
<b>Piedmont Triad Regional Water Authority</b>	<b>(336) 498-5510</b>		

## UNDERSTANDING CONTAMINANTS LISTED IN REPORT

All sources of drinking water, both tap and bottled, include water that travels over the surface of the land or through the ground. The water dissolves naturally occurring minerals and in some cases radioactive material, and can pick up substances resulting from the presence of animals or human activity.

Contaminants that may be expected in untreated water include:

- Microbial - viruses and bacteria from human, agricultural, or wildlife sources.
- Inorganic - salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, mining or farming.
- Pesticides and herbicides - may come from urban stormwater runoff, residential uses and agricultural uses.
- Organic chemicals - synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive materials - can be naturally occurring or 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 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 (800-426-4791), or visit their website at <http://water.epa.gov/drink>.

## WHAT EPA WANTS YOU TO KNOW

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). 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 City of Greensboro 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 30 seconds to 2 minutes 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 the exposure is available from the Safe Drinking Water website at <http://water.epa.gov/safewater/lead>.