2015 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 2015 calendar year. For a more complete list of substances that were analyzed please visit our website at **http://www.greensboro-nc.gov/water** or call 336-373-7527.

SUBSTANCE OR CHARACTERISTIC	UNIT	HIGHEST LEVEL ALLOWED MCL	IDEAL GOAL MCLG	ANNUAL COMPLIANCE TESTS	AVERAGE OF ROUTINE TESTING	RANGE OF ROUTINE TESTING	LIKELY SOURCE OF CONTAMINATION
MONITORED LEAVING THE TREATMENT PLANT							
Alpha emitters [1]	pCi/L	15	0	T <3 ND M <3 ND	—	—	Erosion of natural deposits
Aluminum	mg/L	SS	0.20	N/A	T 0.03 M 0.02	T <0.01 ND - 0.22 M <0.01 ND - 0.18	Residual from the treatment process
Chloride	mg/L	SS	250	N/A	T 18 M 19	T 14 - 33 M 12 - 29	Naturally present in the environment; treatment process
Chlorine, Total residual [2]	mg/L	4.0 MRDL	4.0 MRDLG	N/A	T 3.2 M 3.2	T 2.6 - 3.8 M 1.2 - 3.97	Water additive used to control microbes
Chloramines	mg/L	4.0 MRDL	4.0 MRDLG	N/A	T 2.9 M 2.9	T 2.2 - 3.6 M 0.1 - 3.7	Water additive used to control microbes
Color	CU	SS	15	N/A	T 1 M 1	T <1 ND - 5 M <1 ND - 5	—
Combined radium [1]	pCi/L	5	0	T <1 ND M <1 ND	—	—	Erosion of natural deposits
Fluoride	mg/L	4.0	2.0	T 0.40 M 0.11	T 0.64 M 0.13	T 0.28 - 1.10 M 0.08 - 0.19	Water additive which promotes strong teeth
Hardness, Total [3]	mg/L	N/R	—	N/A	T 52 M 48	T 30 - 77 M 29 - 76	Natural deposits and the treatment process
Iron	mg/L	SS	0.30	T <0.06 ND M <0.06 ND	T 0.01 M 0.01	T <0.01 ND - 0.04 M <0.01 ND - 0.04	—
Manganese	mg/L	SS	0.05	T <0.01 ND M <0.01 ND	T <0.01 ND M <0.01 ND	T <0.01 ND - 0.07 M <0.01 ND - 0.01	—
Nitrate as Nitrogen	mg/L	10	10	T <1 ND M <1 ND	T 0.18 M 0.34	T 0.07 - 0.32 M 0.08 - 0.69	Fertilizer runoff; leaching from septic tanks, sewage; natural deposits
pH	SU	SS	6.5-8.5	T 7.6 M 7.2	—	T 7.2 - 8.8 M 7.3 - 9.0	—
Phosphorus, Total	mg/L	N/R	N/A	N/A	T 1.6 M 1.5	T 1.1 - 2.8 M 1.1 - 2.9	Fertilizer runoff; Corrosion control treatment
Sodium	mg/L	N/R	N/A	T 17 M 25	T 16 M 23	T 6 - 27 M 13 - 38	Naturally occurring minerals in the soil
Sulfate	mg/L	SS	250	T 29 M 31	T 36 M 41	T 18 - 46 M 30 - 52	Naturally occurring minerals in the soil
Total Dissolved Solids (TDS)	mg/L	SS	500	N/A	T 115 M 133	T 24 - 153 M 87 - 175	Erosion of natural deposits; treatment process
Total Organic Carbon [4]	mg/L	TT	N/A	N/A	T 1.66 M 1.69	T 1.49 - 2.06 M 1.18 - 2.02	Naturally present in the environment
Turbidity [5]	NTU	TT	N/A	N/A	T 0.06 M 0.09	T 0.02 - 0.26 M 0.02 - 0.25 T 100% <0.30 M 100% <0.30	Soil runoff
Uranium [1]	pCi/L	20.1	0	T <0.67 ND M <0.67 ND	—	—	Erosion of natural deposits
MONITORED IN DISTRIBUTION SYSTEM							
Chlorine, Total residual [6]	mg/L	4.0 MRDL	4.0 MRDLG	N/A	2.4	0.1 - 3.7	Disinfection additive used to control microbes
Total Coliform [7]	—	5.0% positive	zero	N/A	0.64%	—	Naturally present in the environment
E. coli [8]	—	zero	zero	N/A	— [9]	—	Human and animal fecal waste
Total Trihalomethanes TTHM [10]	µg/L	80	N/A	N/A	LRAA 58	24-79	By-product of drinking water disinfection
Total Haloacetic Acids HAA5 [11]	µg/L	60	N/A	N/A	LRAA 47	18 - 70	By-product of drinking water disinfection
MONITORED AT THE CUSTOMER'S TAP							
Lead [12]	µg/L	15 AL	zero	98.15% of the homes tested were below AL		<3 -19	Corrosion of Household Plumbing System
Copper [12]	mg/L	1.3 AL	1.3	100% of homes tested were below AL		<0.05-0.12	Corrosion of Household Plumbing System

[1] Radiological contaminants; sampled on January 13, 2015; all were below required reporting limit or non-detectable.
[2] Chlorine residual tested every two hours and monitored continuously on-line.
[3] Considered to be moderately soft (USGS standards established in 1962).
[4] Compliance based on 45% removal.
[5] 100% of samples were <0.30. The EPA requirement is 95%.
[6] Tested at each bacteriological sample site.
[7] 1 of the 157 monthly samples tested positive for Total Coliform Bacteria. No violations occurred.
[8] The MCL is exceeded if a routine sample and repeat sample are Total Coliform positive, and one is also Fecal Coliform or E. Coli positive. There were 1870 samples tested in 2015.
[9] On June 10, 2015, we had 1 E. coli positive original routine sample. All 3 repeat samples were absent for Total Coliform and E. coli.
[10] 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.
[11] Some people who drink water containing Haloacetic Acids in excess of the MCL over many years may have an increased risk for getting cancer.
[12] A minimum of 50 at-risk homes were tested from June 1-September 30, 2015 by a state certified lab for lead and copper; All consumer complaints tested for lead and copper by the Water Resources lab.

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

LRAA-Locational Running Annual Average: The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

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. MCLs 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.

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.

Picocuries per liter (pCi/L): is a measure of radioactivity intensity per unit volume.

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 below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Haw River	Moderate	July 8, 2015
Lake Brandt	Higher	July 8, 2015
Lake Townsend	Higher	July 8, 2015

The complete SWAP assessment report for the City of Greensboro may be viewed on the web at: **http://www.ncwater.org/swap.** Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on the website may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, please mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email requests to **swap@ncdenr.gov.** Please indicate your system name (City of Greensboro), system number, 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.

ADDITIONAL MONITORING

In March of 2015, our system started a two year monitoring program for cryptosporidium. The samples taken from our source waters, Lake Townsend and Lake Brandt, were sent to a certified lab for analysis. There were no detectable levels (<1 oocysts/L) in each of the monthly samples.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Synthetic Organic Chemical (SOC) results from our 2015 finished water samples, including Pentachlorophenol were all below the required reporting limits or non-detects. Pentachlorophenols are commonly used in industrial and manufacturing processes.

QUESTIONS AND PUBLIC INVOLVEMENT ARE WELCOME

Water Resources is a local government department within the City of Greensboro. The department 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 336-373-7527.

For questions about your water bill or your meter, please call 336-373-CITY (2489).

If you have well water and have questions about your water quality, contact Guilford County Water Quality Department at 336-641-7613.

To learn more about Water Resources visit: **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 336-373-2033.

For more drinking water information, visit EPA's website at **http://water.epa.gov/drink.**

2015 Annual Water Quality Report

The City of Greensboro's 2015 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 used, o hable con alguien que lo entienda. Para información llame al 373-CITY (2489).

Important Drinking Water Information Enclosed!

**********ECRWSS
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City of Greensboro 2015 Annual Water Quality Report

PWS# 02-41-010

The City of Greensboro is pleased to provide you with the 2015 Water Quality Report. The Federal Safe Drinking Water Act requires all public water systems to provide this report to its customers annually. This report presents information about our water system and the quality of the water in Greensboro. 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

The City of Greensboro has three surface water sources: 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 280,000 people with an average daily water demand of 33.1 million gallons per day in 2015. During 2015 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:

City of Reidsville	**336-349-1070**
City of Burlington	**336-222-5133**
Piedmont Triad Regional Water Authority	**336-498-5510**

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 healthcare providers. The 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 household 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 purposes. 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://www.epa.gov/safewater/lead.**

UNDERSTANDING CONTAMINANTS IN REPORT

All sources of drinking water, including tap and bottled, involves 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 source 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 byproducts 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. Food and Drug Administration (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).