

**CITY OF GREENSBORO 2008 WATER QUALITY RESULTS
MONITORED LEAVING THE TREATMENT PLANT**

SUBSTANCE	UNIT	HIGHEST ALLOWED by EPA MCL ³	PUBLIC HEALTH GOAL MCLG ⁴	ANNUAL COMPLIANCE TESTING	RESULTS		RANGE	VIOLATION	COMMENT	POTENTIAL SOURCE OF SUBSTANCES
					AVERAGE					
Aluminum	mg/L ²	REGULATED ⁵	0.20		T ¹ 0.03	M ¹ 0.07	<0.01 -0.15	NO	Secondary Standard	Residual from the Treatment Process
Arsenic	mg/L	0.010	0.006	T ¹ <0.005 ND M ¹ <0.005 ND				NO		Solder, electronics, fire retardants
Antimony	mg/L	0.006	zero	T ¹ <0.003 ND M ¹ <0.003 ND				NO	Secondary Standard	Erosion of natural deposits
Asbestos	MFL ⁸	7	7					NO	Last regulatory sampling Dec. 2002; Next regulatory sampling 2011	Erosion of natural deposits
Barium	mg/L	2.000	2.000	T ¹ <0.400 M ¹ <0.400				NO		Erosion of natural deposits; metal refinery
Beryllium	mg/L	0.004	0.004	T ¹ <0.002 ND M ¹ <0.002 ND				NO		Metal refinery; coal burning factory
Cadmium	mg/L	0.005	0.005	T ¹ <0.001 ND M ¹ <0.001 ND				NO		Corrosion of galvanized pipes; natural erosion
Chloride	mg/L	REGULATED ⁵	250		T ¹ 10.4	M ¹ 9.3	6.50 -24.2	NO	Secondary standard	
Chlorine, Free residual	mg/L	4.0 MRDL ¹¹	4.0 MRDLG		T ¹ 1.81	M ¹ 1.79	T 0.92-2.5 M 1.02-2.3	NO	Chlorine residual tested every 2 hours, monitored continuously on-line	Water additive used to control microbes
Chromium	mg/L	0.100	0.100	T ¹ <0.020 ND M ¹ <0.020 ND				NO		Erosion of natural deposits; steel mills
Color	CU	REGULATED ⁵	15		T ¹ .7	M ¹ .9	<1 -8	NO	Secondary Standard	
Copper (see Monitored at Consumer's Tap below)	mg/L	REGULATED ⁵	1.0		T ¹ <0.05	M ¹ <0.05	<0.05 - <0.05	NO	Secondary Standard	Corrosion of household plumbing
Cyanide	mg/L	0.200	0.200	T ¹ <0.040 ND M ¹ <0.040 ND				NO		
Fluoride	mg/L	4.000	2.00	T ¹ 0.64 M ¹ 0.84	T ¹ 0.76	M ¹ 0.96	T 0.11-1.13 M 0.14-1.23	NO		Water additive which promotes strong teeth
Hardness, Total	mg/L	NOT REGULATED			T ¹ 34	M ¹ 49	2 - 134	NO	Considered to be moderately soft (USGS standards established in 1962)	Natural deposits and the treatment process
Iron	mg/L	REGULATED ⁵	0.300	T ¹ <0.060 ND M ¹ <0.060 ND	T ¹ <0.01 ND	M ¹ <0.01 ND	<0.01 ND -.02	NO	Secondary Standard	Plumbing corrosion and natural deposits
Manganese	mg/L	REGULATED ⁵	0.050	T ¹ <0.010 ND M ¹ <0.010 ND	T ¹ <0.01 ND	M ¹ <0.01 ND	<0.01 ND -<0.01 N	NO	Secondary Standard	Plumbing corrosion and natural deposits
Mercury	mg/L	0.002	0.002	T ¹ <0.0004 ND M ¹ <0.0004 ND				NO		Landfill and cropland runoff; natural deposits
Nickel	mg/L	NOT REGULATED	0.100	T ¹ <0.100 ND M ¹ <0.100 ND				NO		Erosion of natural deposits
Nitrate as Nitrogen	mg/L	10.0	10.0	T ¹ <1.00 ND M ¹ <1.00 ND	T ¹ .30	M ¹ .44	.15 - 1.03	NO		Fertilizer runoff; sewage; natural deposits
pH	SU	REGULATED ⁵	6.5-8.5	T ¹ 7.09 M ¹ 6.95			T 6.5-8.3 M 7-8	NO	Secondary Standard	
Phosphorus, total	mg/L	NOT REGULATED			T ¹ 0.42	M ¹ 0.31	0.06 -0.76	NO		Fertilizer runoff; Corrosion control treatment
Selenium	mg/L	0.050	0.050	T ¹ <0.010 ND M ¹ <0.010 ND				NO		Mine waste; natural deposits
Sodium	mg/L	NOT REGULATED			T ¹ 13.10	M ¹ 8.70	2.7-22.6	NO		Naturally occurring minerals in the soil
Sulfate	mg/L	REGULATED ⁵	250	T ¹ 22 M ¹ 23	T ¹ 24.3	M ¹ 22.4	<1 - 30.8	NO	Secondary Standard	Naturally occurring minerals in the soil
Total Dissolved Solids (TDS)	mg/L	REGULATED ⁵	500		T ¹ 84	M ¹ 94	53 - 146	NO	Secondary Standard	Erosion of natural deposits; treatment process
Thallium	mg/L	0.002	0.0005	T ¹ <0.001 ND M ¹ <0.001 ND				NO		Leaching from ore processing
Turbidity	NTU ¹⁰	TT ⁹	N/A ¹⁴		T ¹ 0.02	M ¹ 0.07	0.01-0.17 100.00% <0.30	NO	100% of all samples were <0.30. The EPA requirement is 95%.	Soil runoff
Zinc	mg/L	REGULATED ⁵	5.0		T ¹ <0.01	M ¹ <0.01	<0.01 -<0.01	NO	Secondary Standard	Corrosion of plumbing fixtures; industrial waste
VOLATILE ORGANIC CHEMICALS								NO	50+ VOC's tested; All others - Not Detected	
Chloroform, Chlorodibromomethane	µg/L	NOT REGULATED	N/A	T ¹ <0.0005 M ¹ <0.0005				NO	Testing in dist system: chloroform max @ 176 µg/L chlorodibromomethane max @	By-product of drinking water disinfection
Bromodichloromethane	µg/L	NOT REGULATED	zero	T ¹ <0.0005 M ¹ <0.0005				NO	quarterly testing in Distribution system; bromodichloromethane max @ 24µg/L	By-product of drinking water disinfection
DISINFECTION BY-PRODUCT PRECURSORS									Secondary Standard	
Total Organic Carbon	mg/L	TT ⁹	N/A		RAA ¹⁷ T ¹ 1.05	M ¹ 1.13	T 0.92-1.23 M 1.03-1.30	NO	Compliance based on 45 - 50% removal; Compliance method Step 1 and Acc4	Naturally present in the environment
SYNTHETIC ORGANIC CHEMICALS									Includes pesticides and herbicides.	Pesticide/herbicide runoff
26 SOC's	µg/L	6 ⁵	0	2.36				NO		Discharge from rubber & chemical factories
13 SOC's	mg/L	NOT REGULATED		Not Detected ND				NO	Next regulatory sampling March 2009	
RADIONUCLIDES									Compliance sampling 2003; Next regulatory sampling 2009	
Gross Alpha	pCi/L ¹³	15	zero	T ¹ <3 M ¹ <3				NO	Erosion of natural deposits	Erosion of natural deposits
Uranium	pCi/L	20	zero	T ¹ 3.8 M ¹ <2				NO	Erosion of natural deposits, sampled in 2003	Erosion of natural deposits
Radium 226	pCi/L	3	zero	T ¹ <1 ND M ¹ <1 ND				NO	Erosion of natural deposits	Erosion of natural deposits
Radium 228	pCi/L	2	zero	T ¹ <1 ND M ¹ <1 ND				NO	Erosion of natural deposits	Erosion of natural deposits
Gross Beta	pCi/L	50	zero	T ¹ <4 M ¹ 4.1				NO	Decay of natural and man-made minerals, sampled in 2003	Decay of natural and man-made minerals

MONITORED IN THE DISTRIBUTION SYSTEM

DISINFECTION BY-PRODUCTS										
Total Trihalomethanes TTHM	µg/L ¹⁶	80.0	N/A		70.6		20 - 199	NO		By-product of drinking water disinfection
Total Haloacetic Acids HAA5	µg/L	60.0	N/A		38.3		12 - 80	NO		By-product of drinking water disinfection
Chlorine, Free residual	mg/L	4.0 MRDL ¹¹	4.0 MRDL		1.02		<0.01 - 1.97	NO	analyzed as each bacteriological sample is collected (1915 in 2008)	Disinfection additive used to control microbes
Total Coliform Bacteria		5.0% of monthly samples positive	zero		1.23%			NO	2 positives of 162 monthly distribution samples in June & August 2008	Naturally present in the environment
Fecal/E. Coli Coliform Bacteria		zero	zero		0.00%			NO	1915 distribution samples collected in 2008	Human and animal fecal waste

MONITORED AT THE CUSTOMERS TAP

Lead June-Sept. 2007	µg/L	15.0 AL ¹⁵	zero	100.00% of homes were below A.L.* 90th percentile=3	<3 - <3			NO	50 at-risk homes tested every 3 years by a State certified lab for copper & lead	Corrosion of household plumbing
Copper June-Sept. 2007	mg/L	1.30 AL	1.30	100.00% of homes were below A.L. 90th percentile= 0.09	<0.05 - .15			NO	All consumer complaints tested for Copper & Lead by the Water Resources Lab	Corrosion of household plumbing

DEFINITIONS AND KEY TO ABBREVIATIONS USED IN A TABLE

1	T	Townsend Water Plant, located northeast of Greensboro, with source water supplied by Lake Townsend
	M	Mitchell Water Plant, located in central Greensboro, with source water supplied by Lake Brandt
2	mg/L	Milligrams per Liter equivalent to Parts per Million (ppm). (Corresponds to one penny in \$10,000, or one minute in two years.)
3	MCL**	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.
4	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.
5	Secondary Standards	Non-enforceable guidelines for drinking water due to aesthetic considerations such as taste, color and odor. These substances are not considered a risk to human health at the established levels.
6	<	Less than symbol, which means below the detection limit of the instrument
7	ND	Non-Detects, laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used
8	MFL	Million Fibers per Liter, count of asbestos fibers that are longer than 10 micrometers
9	TT	Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water
10	NTU	Nephelometric Turbidity Unit, measures the cloudiness of the water; at no time can the turbidity go above 1.0 NTU, and must not exceed 0.30 in 95% of daily samples in any month
11	MRDL	Maximum Residual Disinfectant Level, 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.
12	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.
13	pCi/L	Picocuries per Liter is a measure of radioactivity in water
14	N/A	Not-Applicable, information not applicable/not required for the water system or for that particular regulation
15	AL	Action Level, the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. If more than 10% of tap samples exceed the AL for Copper and Lead, water systems must take additional steps.
16	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.
17	RAA	Running Annual Average.
18	TTHM	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 of getting cancer.
	**MCL note	MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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 having the described health effect.