

Town of Boiling Springs
2013 Annual Drinking Water Quality Report
Water System ID Number: 01-23-025

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. **If you have any questions about this report or concerning your water, please contact Mike Gibert at (704) 434-2357. We want our valued customers to be informed about their water utility.**

Our drinking water once again meets and exceeds all state and federal drinking water standards.

What EPA Wants You to Know

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).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 microbial 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 Town of Boiling Springs 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 exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban Stormwater runoff, and septic systems; and 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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

Shelby's water comes from the surface water source of the First Broad River that flows along the west side of town. An emergency backup water supply at the Broad River is also available. The City of Shelby is permitted to withdraw up to 18 million gallons per day (MGD) from the First Broad River and the facilities at the Broad River can provide approximately 9 MGD for emergency backup water supply. The Town of Boiling Springs tap water is purchased from the City of Shelby, which falls under the regulation of the Environmental Protection Agency.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), 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 Shelby 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 table below:

2013 Susceptibility of Sources to Potential Contaminant Sources (PCSS)	
<u>SOURCE NAME:</u>	<u>SUSCEPTIBILITY RATING:</u>
First Broad River	Moderate
Broad River	Moderate

The complete SWAP Assessment report for the City of Shelby may be viewed on the Web at: www.ncwater.org/pws/swap. 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. If you are unable to access your SWAP report on the web, you may 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, number, 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 PCSs in the assessment area.

Water Quality Table Information

The City of Shelby and Town of Boiling Springs monitors for over 150 contaminants in our drinking water according to Federal and State laws. The table below shows contaminants which were detected during January - December 2013. Both regulated and unregulated contaminants are listed and the table below contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the likely sources of such contamination, footnotes explaining our findings, and a key to units of measurements. Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

The presence of contaminants does not necessarily indicate that water poses a health risk. EPA and the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than a year old.

For your information, the definitions of MCL and MCLG are listed below:

- Maximum contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water.
- Maximum Contaminant Level Goal or MCLG: The level of the contaminant in drinking water below which there is no known or expected risk to health.
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MCLs are set as close to the MCLGs as feasible by the EPA and the City of Shelby and the Town of Boiling Springs are using the best available treatment technology.

MCLGs allow for a margin of safety.

Key to Table

AL = Action Level	MRDLG = Maximum Residual Disinfectant Level Goal	ppt = parts per trillion, or nanograms per liter
MCL = Maximum Contaminant Level	N/A = Not Applicable	SS = Secondary Standards (non-enforced guidelines)
MCLG = Maximum Contaminant Level Goal	NR = Not Regulated	TT = Treatment Technique
MFL = Million Fibers Per Liter	NTU = Nephelometric Turbidity Units	ppm = parts per million
mg/L = Milligrams per liter (mg/L)	ppq = parts per quadrillion, or picograms per liter	ppb = parts per billions, or micrograms per liter (ug/L)
MRDL = Maximum Residual Disinfectant Level		

Important Drinking Water Definitions:

Not-Applicable (N/A) - Information not applicable/not required for that particular water system or for that particular rule.

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

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.

Parts per billion (ppb) or Micrograms per liter (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/L) - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/L) - One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

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

Million Fibers per Liter (MFL) - Million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - Nephelometric turbidity unit is a measure of the clarity of 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 system must follow.

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

Maximum Residual Disinfection 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.

Maximum Residual Disinfection Level (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.

Maximum Contaminant Level (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.

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.

TOWN OF BOILING SPRINGS

Microbiological Contaminants							
Contaminant (units)	Sample Date	MCL Violation	Our Water		MCLG		Likely Source of Contamination
Total Coliform Bacteria (present or absent)	5/month	No	0		0		Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	N/A	No	0		0		Human and animal fecal waste
(Samples with total coliform present must be analyzed further for fecal / e. coli contamination)							
Disinfection By-Product Contaminants							
Contaminants (units)	Sample Date	MCL Violation	Our Water (RAA)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (mg/L) (Total Trihalomethanes)	Quarterly	No	0.049	0.020 0.089	N/A	0.08	By-product of drinking water chlorination
HAA5 (mg/L) (Total Haloacetic Acids)	Quarterly	No	0.017	0.013 0.025	N/A	0.06	By-product of drinking water chlorination
Chlorine (ppm)	Daily	No	0.93	0.41 1.43	MRDLG=4	MCDL=4	Water additive used to control microbes
Lead and Copper Contaminants							
Contaminants (units)	Sample Date	MCL Violation	Our Water	# of sites above the Action Level	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	September 2013	No	0.015	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead (ppm) (90 th percentile)	September 2013	No	<0.001	0	0	AL=0.015	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Unregulated VOC Contaminants					
Contaminants (units)	Sample Date 2013	Our Water (AVG)	Likely Source of Contamination		
Chloroform (mg/L)	Quarterly	0.033	Component of total Trihalomethanes		
Bromoform (mg/L)	Quarterly	<0.001	Component of total Trihalomethanes		
Bromodichloromethane (mg/L)	Quarterly	0.019	Component of total Trihalomethanes		
Dibromochloromethane (mg/L)	Quarterly	0.0015	Component of total Trihalomethanes		
Asbestos Contaminant					
Contaminants (units)	Sample Date	MCL Violation	Our Water	Allowable Limit	Likely Source of Contamination
Total Asbestos, MFL	9/4/2013	No	0	7.0 MFL	Decay of asbestos cement water mains; erosions of natural deposits

CITY OF SHELBY

Contaminants

Microbiological Contaminants

Contaminant (units)	Our Water	MCLG	MCL	Likely Source of Contamination	Violation
Total Coliform Bacteria	1	0	One positive monthly sample	Naturally present in the environment.	No
Fecal Coliform or <i>E. coli</i> (presence or absence)	0	0	0 Note 1	Human and animal fecal waste.	No

Note 1: 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.

Turbidity

Contaminant (Units)	Sample Date	TT	MCLG	Our Water	Range	Likely Source of Contamination	Violation
Turbidity (NTU) - In January, recorded lowest %	1/14.13 98.4%	1.0 Note 2		0.763		Soil run-off	No

Inorganic Compounds

Contaminant (Units)	Sample Date	MCL	MCLG	Our Water	Range	Likely Source of Contamination	Violation
Barium, mg/L	1/10/13	2	2	.013	N/A	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	No
Fluoride, mg/L	6/13/13	4	4	.94	0.32 – 0.94	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.	No

Unregulated Inorganic Contaminants

Sulfate, mg/L	1/10/13	N/A		21.6		Naturally occurring minerals; treatment process.	No
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Sodium, mg/L	1/10/13	N/A		12.8		Naturally occurring minerals; treatment process.	No
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Note 2 - Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

Nitrate/Nitrite Contaminants

Contaminant, Units	Our Water	Range	MCLG/MCL	Likely Source of Contamination		Violation
Nitrate (as Nitrogen ppm)	0.53	N/A	10 / 10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		No
Nitrite (as Nitrogen ppm)	0	N/A	1 / 1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		No

Asbestos

Contaminants

Contaminant, Units	Sample Date	Our Water	MCLG/MCL	Likely Source of Contamination		Violation
Total Asbestos, MFL	2/5/13	0	7 / 7	Decay of asbestos cement water mains; erosion of natural deposits		No

Disinfection By-product Precursors Contaminants

Contaminant (Units)	Our Water (RAA)	Range	MCLG	TT	Likely Source of Contamination	Violation
Total Organic Carbon, ppm Raw Water	1.69	1.1 – 3.6	N/A	TT	Naturally Present in the Environment	No
Total Organic Carbon, ppm Treated Water	0.43	0.0 – 1.6	<2.0	TT	Naturally Present in the Environment	No

Depending on the Total Organic Carbon (TOC) in or source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. Our water system uses Alternative Compliance Criteria 2, which means our treated water TOC must be <2.0 mg/L. If we fail to meet this limit we are in violation of the treatment technique.

Disinfectants and Disinfection By-products

Contaminant (Units)	Our Water (RAA)	Range	MCLG	MCL	Likely Source of Contamination	Violation
TTHM, mg/L (Total Trihalomethanes)	0.066	0.015 – 0.098	N/A	0.080 / NA	By-product of drinking water disinfection.	No
HAA5, mg/L (Total Haloacetic Acids)	0.030	0.005 – 0.038	N/A	0.060 / NA	By-product of drinking water disinfection.	No
Chlorine (ppm)	0.88	0.20 – 1.81	MRDLG=4	MRDL=4	Water additive used to control microbes.	No

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.

Unregulated Volatile Organic Contaminants

Contaminant (Units)	Sample Date	Our Water	Range
Dichloroacetic Acid (mg/L)	7/8/13	0.024	0.032 – 0.024
Trichloroacetic Acid (mg/L)	7/8/13	0.016	0.022 – 0.016
Bromodichloromethane (mg/L)	7/8/13	0.0103	0.015– 0.0103
Chloroform (mg/L)	7/8/13	0.0863	0.0 106– 0.083
Dibromochloromethane (mg/L)	10/1/13	0.0017	0.0 – 0.0017
Monochloroacetic (mg/L)	4/3/13	0.0038	0.0 – 0.0038

Synthetic Organic Chemical (SOC) Contaminants including Pesticides and Herbicides

Contaminant (Units)	Sample	Our	Range	MCLG	MCL	Likely Source of Contamination	Violation
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	Date	Water					
Atrazine	4/14/11	0.00022	0.00 – 0.00022	0.003	0.003	Run off from herbicide used on row crops.	No

Lead and Copper Contaminates

Contaminates (Units)	Sample Date	Our Water	# of Sites above AL	MCL / MCLG	Likely Source of Contamination
Copper, mg/L 90 th percentile	8/28/13	0.140	0	AL = 1.3 / 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead, mg/L 90 th percentile	8/28/13	0.0016	0	AL = 0.015 / 0	Corrosion of household plumbing systems; erosion of natural deposits; leaching of wood preservatives.