

## 2013 Annual Drinking Water Quality Report

We're pleased to present this **2013** Annual Quality Water Report. It is designed to inform you about the quality of water and services we deliver to you. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. Our goal is to provide you with a safe and dependable supply of drinking water. We constantly make efforts to improve the treatment process, protect our water resources, and insure the quality of your water. Our source of water is the Pigeon River. This stream is classified as a Class III surface water source.

We are pleased to report that our drinking water is **safe** and meets all federal and state requirements.

If you have any questions about this report or your water utility, please contact **Scott D. Flushing** at the **Canton Filter Plant; (646-3414)** between the hours of **8am** and **4pm**. We want our customers to be informed about their water utility. You can learn more by attending any of the Town of Canton, Board of Aldermen regularly scheduled meetings. Contact the town hall (828-648-2363) for dates, times and location. They can also answer questions about your water billing.

### Why treat your drinking water:

Drinking water (both tap water and bottled water) is drawn from rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface or through the earth, it dissolves minerals, naturally occurring radioactivity, and can pick up organic materials from animals or humans. Contaminants in source water may 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 natural or result from storm runoff, industrial or domestic wastewater, mining, or farming; pesticides and herbicides, which may come from agriculture, storm water runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, oil and gas, which are by-products of industrial processes and petroleum production, and can also come from gas stations, storm water runoff, and septic systems; 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 regulates the amount of certain contaminants in public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

### SWAP: (Source Water Assessment Program)

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 to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCS). 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 **Town of Canton** 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 watershed and its delineated assessment area).

The **Town of Canton** water source, the **Pigeon River**, relative to other sources, has a **lower** contaminate rating with a **higher** vulnerability, resulting in a **Moderate** susceptibility to future contamination.

The complete SWAP Assessment report for Town of Canton may be viewed on the Web at: <http://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 request to [swap@ncmail.net](mailto:swap@ncmail.net). Please indicate your system name, PWSID 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 919-715-2633. Last SWAP report date: February 19, 2010.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, just the opposite. It means that the Pigeon River is a less contaminated stream, but because it is highly variable, due mainly to weather, it has the potential to become contaminated by PCS's in the assessment area.

The Town of Canton routinely monitors for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that were detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that the water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2013.** The EPA or the State requires the Town 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 one year old.

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.

Listed below are some terms and abbreviations to help you better understand the information listed in the following tables:

- Non-Detect (ND)** – laboratory analysis indicates that the constituent is not present at a level of detection for the particular methodology used.
- Parts per million (ppm)** – one part per million corresponds to a single penny in \$10,000.
- Parts per billion (ppb)** – one part per billion corresponds to a single penny in \$10,000,000.
- Nephelometric Turbidity unit (NTU)** – Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of **1 NTU** is just noticeable to the average person.
- Action Level** – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Maximum Contaminant level (MCL)** – highest level of a contaminant allowed that is allowed in drinking water
- MCL Goal (MCLG)** – is the level of a contaminant in drinking water below which there is no known or expected health risk. MCLG's allow for a margin of safety.
- Presence/Absence (P/A)** – test run to determine if bacteria is present in drinking water
- Treatment Technique (TT)** – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Extra 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.

## DETECTED SUBSTANCES IN CANTON'S WATER

### Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	ND	0	one positive monthly sample	Naturally present in the environment
Fecal Coliform or <i>E. coli</i> (presence or absence)	N	ND	0	0 (Note: The MCL is exceeded if a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive)	Human and animal fecal waste

Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If the limit set by the rule is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

### Turbidity

Contaminant (units)	Treatment Technique (TT) Violation Y/N	Your Water	Treatment Technique (TT) Violation if:	Likely Source of Contamination
Turbidity (NTU) - Highest single turbidity measurement	N	.270 NTU	Turbidity > 1 NTU	Soil runoff
Turbidity (NTU) - Lowest monthly percentage (%) of samples meeting turbidity limits	N	100%	Less than 95% of monthly turbidity measurements are ≤ 0.3 NTU	

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.

### Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
Fluoride (ppm)	5/8/13	N	.82	.80	1.4	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

### Nitrate/Nitrite Contaminants

Contaminant (units)	MCL Violation Y/N	Your Water	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
Nitrate (as Nitrogen) (ppm)	N	ND	ND	ND	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	N	ND	ND	ND	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	AL	Likely Source of Contamination
*Copper (ppm) (90 <sup>th</sup> percentile)	September 2012	.12	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
**Lead (ppb) (90 <sup>th</sup> percentile)	September 2012	0.00	0	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

\*Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time, could experience gastrointestinal distress. Some people, who drink water-containing copper in excess of the action level over many years, could suffer liver or kidney damage. People with **Wilson's disease** should consult their personal doctor.

\*\*Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than in other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

### Disinfection By-Product Precursors Contaminants

Contaminant (units)	Sample Date	MCL/TT Violation Y/N	Your Water (RAA Removal Ratio)	Range		MCLG	MCL	Likely Source of Contamination	Compliance Method (Step 1 or ACC#)
				Low	High				
Total Organic Carbon (removal ratio) (TOC) - TREATED	Jan - Dec 2013	N	100%	0	1.4	N/A	TT	Naturally present in the environment	ACC 2

Note: Depending on the TOC in the source water the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If the system does not achieve that % removal there is an "alternative % removal". If that criteria is not met, the system is in violation of a Treatment Technique.

Alternative Compliance Criteria (ACC)	
Alt. 1	Source Water TOC <2.0 mg/L
Alt. 2	Treated Water TOC <2.0 mg/L
Alt. 3	Source Water SUVA <2.0 L/mg-m
Alt. 4	Treated Water SUVA <2.0 L/mg-m
Alt. 5	Treated Water Alkalinity <60 mg/L (for softening systems only)
Alt. 6	THM & HAA RAA's <1/2 MCL & uses only chlorine
Alt. 7	Source TOC RAA <4.0 mg/L and Source Alkalinity >60 mg/L and THM & HAA RAAs ≤ MCL

STEP 1 TOC Removal Requirements			
Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO <sub>3</sub> (in percentages)		
	0 - 60	>60 - 120	> 120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

### Disinfection By-Product Contaminants

Stage 1 Rule							
Contaminant (units)	MCL/MRDL Violation Y/N	Your Water RAA	Range		MCLG	MCL	Likely Source of Contamination
			Low	High			
TTHM (ppb) [Total Trihalomethanes]	N	15	13	29	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	21	18	36	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)	N	1.00	.30	1.72	MRDLG=4	MRDL=4	Water additive used to control microbes

**Stage 2 Rule**

Sample Point	Contaminant (units)	MCL/MRDL Violation Y/N	Your Water LRAA	Range		MCLG	MCL	Likely Source of Contamination
				Low	High			
B01	TTHM (ppb) [Total Trihalomethanes]	N	7	0	29	N/A	80	By-product of drinking water chlorination
	HAA5 (ppb) [Total Haloacetic Acids]	N	12	0	49	N/A	60	By-product of drinking water disinfection
B02	TTHM (ppb) [Total Trihalomethanes]	N	4	0	17	N/A	80	By-product of drinking water chlorination
	HAA5 (ppb) [Total Haloacetic Acids]	N	6	0	24	N/A	60	By-product of drinking water disinfection

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.

The table below lists the monitoring results of unregulated contaminants. 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. If you would like more information on unregulated chemicals you may call the EPA Hot line at **1-800-426-4791**.

**Unregulated Inorganic Contaminants**

Contaminant (units)	Sample Date	Your Water	Range		Secondary MCL
			Low	High	
Sulfate (ppm)	5/9/13	18	11	25	250

**Secondary Contaminants**

Contaminant (units)	Sample Date	Your Water	Range (Low / High)	Secondary MCL
Sulfate (ppm)	5/9/13	18	11-25	250 mg/L
Sodium (ppm)	5/9/13	12	N/A	N/A
pH	Constant	7.3	6.6 – 8.2	6.5 – 8.5

**Secondary Contaminants**, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

This System monitored for **Cryptosporidium** and found levels of 0 – 3 oocysts (counted per test) in our source water.

Cryptosporidium is a microbial parasite which is found in surface water throughout the U.S. Although Cryptosporidium can be removed by filtration, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of this system's source water indicates the presence of these organisms. Current test methods do not determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immune-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. Cryptosporidium must be ingested for it to cause disease, and it may be spread through means other than drinking water.

**IS YOUR WATER SAFE TO DRINK?**

As you can see by the table, the Town of Canton's water system had no violations. Your drinking water meets or exceeds all Federal and State requirements. Monitoring and testing has detected some constituents. The EPA has determined that your water **IS SAFE** at these levels.

In this system's continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in the water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary.

Thank you for allowing the Canton water system to continue providing your family with clean, quality water.

Please call our office if you have questions. **Scott D. Flushing at 646-3414 (Canton Filter Plant)**

We at the Town of Canton are working around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

***For a complete list of all chemicals tested, please contact Scott D. Flushing.***

## **What the 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 at 1-800-426-4791**.

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 microbiological contaminants are available from the **Safe Drinking Water Hotline at 1-800-426-4791**.

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 Canton 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 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>.