

### Wellhead Protection Awareness

The City of Elizabethton produces its potable water from three area springs, Hampton, Valley Forge, and Big Springs. The area surrounding these springs are considered wellhead protection areas. We would like all Carter County residents to be aware that ground water contaminants are prohibited in these zones. Ground contamination could be (but not limited to) over fertilizing lawns, garden pesticides, oil spills, or even paint and thinners. Also, erosion in large areas that have lost their top cover of grass and overgrazing of animals could be considered. It is our intention, and yours, to provide safe drinking water to all of our valued customers. If you have questions or see any unusual activity in these zones. Do your part and contact us at 423-547-6300, or contact the police department.

### Voluntary Conservation for All Water Customers

We encourage our customers to use water wisely – even when supplies are abundant. The average American uses about 150 gallons of water every day. You can reduce your water consumption by up to 25 percent by taking just a few simple steps. By doing so, you'll conserve a precious natural resource and save money too. Every drop counts.

(1) Report all significant water losses (broken pipes, open hydrants, errant sprinklers, to the property owner, local authorities or your water provider. (2) Encourage your friends and neighbors to be part of a water-conscious community. (3) Conserve water because it is the right thing to do. Don't waste water just because someone else is footing the bill, such as when you are staying at a hotel. (4) Raise the lawn mower blade to at least three inches or higher to encourage grass roots to grow deeper and hold moisture. (5) Water lawns during early morning hours when temperatures and wind is lowest. This reduces evaporation and waste. (6) Don't use the dishwasher or washing machine until you have a full load. (7) Consider using a commercial car wash that recycles water. If you wash your own car, park on the grass and use a hose with an automatic shut off nozzle. (8) Do not leave sprinklers or hoses unattended. A garden hose can pour out 600 gallons or more in only a few hours. Use a bell timer to remind yourself to turn off sprinkler. (9) Purchase a nozzle for your water hose, so you only use what you need. (10) Limit yourself to five minute showers, and turn off water while brushing teeth.

### Water System Security

Following the events of September 2001, we realize that our customers are concerned about the security of their drinking water. We urge the public to report any suspicious activities at any utility facilities to 423-547-6300.

City of Elizabethton  
136 S. Sycamore Street  
Elizabethton, TN 37643

For more information about your drinking water, please call Doug Cornett at 423-547-6300.

#### How can I get involved?

Our City Council meets on the second Thursday of each month at City Hall, 136 Sycamore St. at 6:00 p.m. Please feel free to participate in these meetings.

Este informe contiene información muy importante. Tradúscalo o hable con alguien que lo entienda bien.

City of  
**Elizabethton**  
PWS ID# TN0000221

Utilities Director:  
Johann Goetzee

Water Resources  
Facilities Manager:  
Ed Mullins

Water Treatment Plant  
Manager: Doug Cornett

**2013**  
Annual Drinking  
Water Quality  
Report

# 2013 Annual Drinking Water Quality Report

## Is my drinking water safe?

Yes, our water meets all of EPA's health standards. We have conducted numerous tests for over 80 contaminants that may be in drinking water. As you'll see in the chart on the back, we only detected 11 of these contaminants. We found all of these contaminants at safe levels.

## What is the source of my water?

Your water is treated groundwater. Our goal is to protect our water from contaminants and we are working with the State to determine the vulnerability of our water source to potential contamination. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. The SWAP Report assesses the susceptibility of untreated water sources to potential contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. Water sources have been rated as reasonably susceptible, moderately susceptible or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. The City of Elizabethton sources rated as reasonably susceptible to potential contamination.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings and the overall TDEC report to EPA can be viewed online at [www.tn.gov/environment/dws/dwassess.shtml](http://www.tn.gov/environment/dws/dwassess.shtml) or you may contact the Water System to obtain copies of specific assessments.

A wellhead protection plan is available for your review by contacting Doug Cornett at the City of Elizabethton between 8:00 A.M. to 4:00 P.M. weekdays.

## Why are there contaminants in my water?

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).

## Is our water system meeting other rules that govern our operations?

The State and EPA require us to test and report on our water on a regular basis to ensure its safety. We have met all of these requirements. Results of unregulated contaminant analysis are available upon request. We want you to know that we pay attention to all the rules.

## Other Information

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:

- 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.
- 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 and the Tennessee Department of Environment and Conservation prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The City of Elizabethton's water treatment processes are designed to reduce any such substances to levels well below any health concern. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## Do I Need To Take Special Precautions?

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 under-gone 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 not only their drinking water, but food preparation, personal hygiene, and precautions in handling infants and pets 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).

## Lead in Drinking Water

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 Elizabethton 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>.

**Additional Educational Material Regarding Lead Important Information About Lead in Your Drinking Water.** City of Elizabethton found elevated levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems, especially for pregnant women and young children. Please read this information closely to see what you can do to reduce lead in your drinking water.

**Health effects of lead.** Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

You can consult a variety of sources for additional information. Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead. State and local government agencies that can be contacted include:

- (I) City of Elizabethton at 423-547-6206 can provide you with information about your community's water supply, and a list of local laboratories that have been certified by EPA for testing water quality;
- (II) City of Elizabethton at 423-542-1503 can provide you with information about building permit records that should contain the name of plumbing contractors that plumbed your home; and
- (III) The State of Tennessee Department of Public Health at 888-771-5323 or the Carter County Health Department at 423-543-2521 can provide you with information about the health effects of lead and how you can have your child's blood tested.



# 2013 Test Results

**City of Elizabethton** routinely monitors for contaminants in your drinking water according to federal and state laws, rules, and regulations. This report is based on the results of our monitoring for the period of January 1 to December 31, 2012. The following results are from the most recent testing done in accordance with the regulations.

Regulated Contaminants							
Contaminant (Unit of Measurement)	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	MCLG [MRDLG]	MCL [MRDL]	Likely Source of Contamination
Total Coliform Bacteria <sup>1</sup>	No	2 or 3.5%	NA	2013	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Turbidity <sup>2</sup> (NTU)	No	1.1	0.02-1.1	2013	NA	TT	Soil runoff
Fluoride (ppm)	No	0.73 Avg.	0.64-0.81	2013	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrate (as Nitrogen) (ppm)	No	1.76	NA	2013	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	No	11	NA	2013	NA	NA	Erosion of natural deposits; used in water treatment
Chlorine (ppm)	No	1.71 Avg.	1.0-2.6	2013	[4]	[4]	Water additive used to control microbes
Asbestos (MFL)	No	0.66	NA	2011	7.0	7.0	Decay of asbestos cement water mains; erosion of natural deposits
Haloacetic Acids [HAA5] (ppb)	No	3.58 Avg.	0-26.7	2013	NA	60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	No	21.97 Avg.	0-60.9	2013	NA	80	By-product of drinking water chlorination
Copper (ppm) <sup>3</sup>	No	90th percentile=0.21	NA	2013	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) <sup>3</sup>	Yes	90th percentile=18.0	NA	2013	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits

Unregulated Contaminants				
Unregulated Contaminant (Unit of Measurement)	Violation Yes/No	Level Detected	Range of Detections	Date of Sample
Chlorate (ppb)	No	206 Avg.	44-440	2013
Vanadium (ppb)	No	0.20 Avg.	0-0.28	2013
Strontium (ppb)	No	153 Avg.	29-390	2013
Chromium (ppb)	No	0.48 Avg.	0.26-0.72	2013
Chromium 6 (ppb)	No	0.36 Avg.	0.14-0.62	2013

### Definitions:

**MCLG** - Maximum Contaminant Level Goal, or 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.

**MCL** - Maximum Contaminant Level, or 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. 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.

**MRDL** - Maximum Residual Disinfectant Level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the 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.

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

**Below Detection Level (BDL)** - laboratory analysis indicates that the contaminant is not present at a level that can be detected.

**Non-Detects (ND)** - laboratory analysis indicates that the contaminant is not present.

**Parts per million (ppm) or Milligrams per liter (mg/l)** - ex-

<sup>1</sup> Repeat samples were reported as negative for total coliform bacteria.

<sup>2</sup> 100.0% of our samples were below the turbidity limit.

<sup>3</sup> During the most recent round of Lead and Copper testing, 7 out of 60 households sampled contained concentrations exceeding the action level.

plained as a relation to time and money as 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** - explained as a relation to time and money as one part per billion corresponds to one minute in 2,000 years, or 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 5 NTU is just noticeable to the average person.

**TT** - Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking 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.

## Cross Connection Notice to Our Customers

Over the next few months, the warm weather will bring people outdoors to work in their yards and gardens and begin getting swimming pools ready. The Elizabethton Water System would like to ensure that our customers are aware of the dangers associated with these activities. An ordinary garden hose is a common way to contaminate a water supply when the hose is submersed in any liquid or attached to certain devices used to spray pesticides or herbicides. This forms a cross connection.

Avoid drinking from a garden hose, it may have been used to spray chemicals on the lawn etc.

A cross connection is a piping arrangement, which allows the potable (drinkable) water supply to be connected to a contaminant source; a situation where a possible source of contamination is directly linked to our public water system.

If the end of your hose is connected to a chemical container, swimming pool, cattle watering trough or other contaminant during a water main break or fire, a drop in water pressure can cause these chemicals to be pulled back into the water supply through the garden hose. This condition, known as back siphonage or backflow, could cause a public health hazard. These events are not uncommon; the contaminant then poses a risk for anyone using the water for drinking, cooking, bathing, or other purpose.

Commercial customers and apartment buildings are required to have a RPZ backflow device on the main domestic water supply, lawn sprinkler, and fire line system; and all residential customers that have an alternative water source, lawn sprinkler, or fire system are also required to have a RPZ backflow device; this device must be inspected annually by an approved State of Tennessee Inspector. Please contact

David Tolley, 423-895-0163, with the City of Elizabethton to see if your inspection is up to date.

Devices are available to prevent this problem; however the best solution is to always be careful how you use your water connections.

It might be assumed that steps for detecting and eliminating cross-connections would be elementary and obvious. Actually, cross-connections may appear in many subtle forms and in unsuspected places. Reversal of pressure in the water may be freakish and unpredictable. The probability of contamination of drinking water through a cross connection occurring within a single plumbing system may seem remote; but, considering the multitude of similar systems, the probability is great.

Many of these cross-connections can be corrected by the installation of a recommended backflow preventer, or hose bib vacuum breaker backflow preventer. The hose bib vacuum breaker is a small inexpensive device for hose connections which are simply attached to sill cocks and threaded faucets. Devices can be purchased at most hardware stores.

Improper plumbing or cross connections on private property can contaminate the public drinking water supply. If there is an incident which results in contamination of public drinking water, the property owner and/or occupant of the property can be held liable for damages.

Please help us provide a safe supply of water to all of our customers. Remember; never place your water hose in anything you would not want to drink. For more information on cross connections and how to protect against them, call our office at 423-895-0163 or email us at [dtolley@cityofelizabethton.org](mailto:dtolley@cityofelizabethton.org).

## Notice of Violation

**Attention all City of Elizabethton Water System Customers.**

**The City of Elizabethton Water System has levels of lead above drinking water standards.**

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customer, you have the right to know what happened, what you should do, and what we are doing to correct this situation. Only sites defined by EPA as highest risk sites were selected for testing. We routinely monitor for the presence of drinking water contaminants. We participated in a consolidated testing program for lead and copper with neighboring water systems which purchase water from the Watauga River Regional Water Authority. Monitoring results of samples collected in 2013 show lead levels above the action level. The action level for lead is 15 ppb. The combined action level from the 2013 tests for the systems which purchase water from the Watauga River Regional Water Authority was 18ppb. It should be noted that twenty of the sixty lead and copper samples were taken from customers served by the City of Elizabethton. Only one of the samples taken by the City of Elizabethton exceeded the action level for lead or copper, however we are required to make our customers aware of the violation because of the consolidation agreement we have for lead and copper with the other water systems which purchase water from the Watauga River Regional Water Authority.

### What should I do?

EPA recommends steps to minimize exposure such as flushing your tap water a couple of minutes before use for drinking and cooking, and use only cold water, and removing any loose debris in the faucet strainer of the tap. No alternative water supply is needed. However, if you have any specific health concerns, consult your doctor. Some may choose to drink bottled water.

### What does this mean?

There is no immediate risk. If it had been, you would have been notified immediately. Infants and young children who drink water containing lead could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

### What happened? What is being done?

The Watauga River Regional Water Authority water treatment plant is now adding a corrosion inhibitor which will add a protective coating to the interior of water lines and customer plumbing fixtures to minimize lead corrosion. In addition we will conduct additional monitoring for lead and copper to ensure that our system meets state and federal standards. If you need additional information, please contact the Watauga River Regional Water Authority at 423-543-2400.

