

## 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.

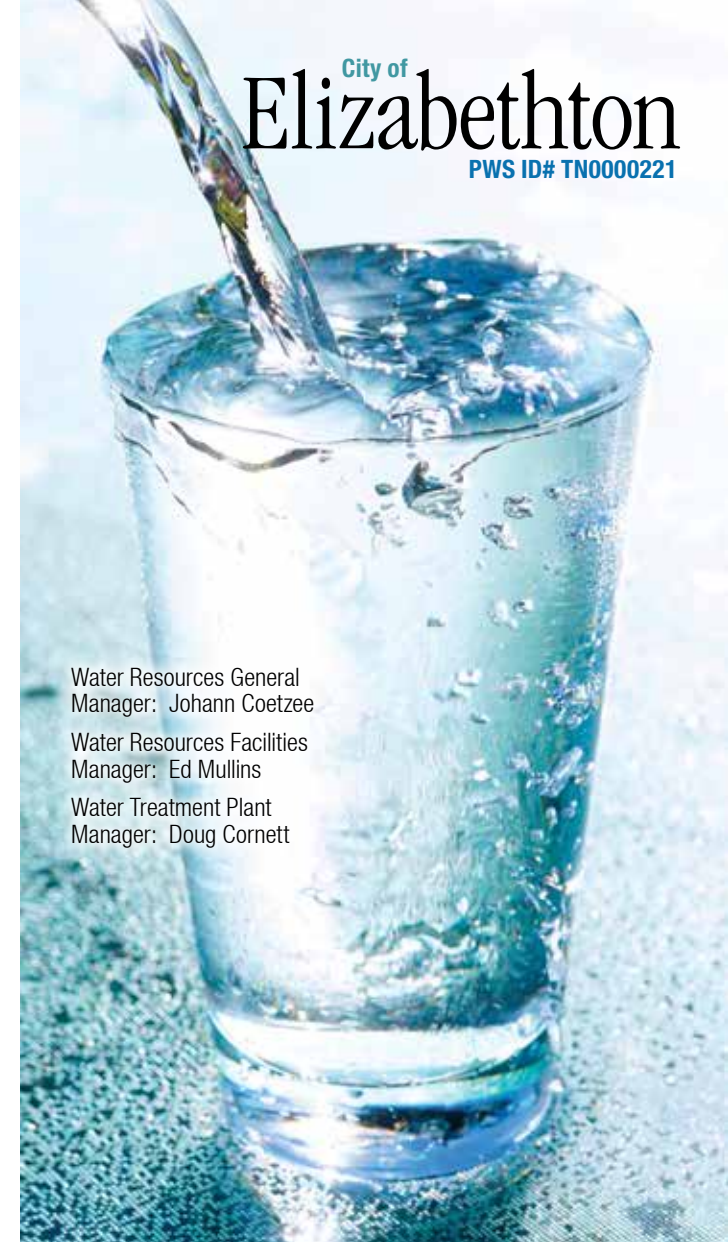
City of Elizabethton  
136 S. Sycamore Street  
Elizabethton, TN 37643

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 S. 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# TN000221

Water Resources General  
Manager: Johann Coetzee

Water Resources Facilities  
Manager: Ed Mullins

Water Treatment Plant  
Manager: Doug Cornett

**2018**  
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 9 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 <https://www.tn.gov/environment/article/wr-wq-source-water-assessment> 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/lead/protect-your-family%23water%23water>

## 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** 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, 2018. The following results are from the most recent testing done in accordance with the regulations.

| Contaminants                         |                     |                         |                        |                   |                 |               |   |
|--------------------------------------|---------------------|-------------------------|------------------------|-------------------|-----------------|---------------|---|
| Contaminant<br>(Unit of Measurement) | Violation<br>Yes/No | Level<br>Detected       | Range of<br>Detections | Date of<br>Sample | MCLG<br>[MRDLG] | MCL<br>[MRDL] | Likely Source of Contamination  |
| Total Coliform Bacteria (RTCR)       | No                  | 0                       | NA                     | 2018              | 0               | TT Trigger    | Naturally present in the environment  |
| Turbidity <sup>1</sup> (NTU)         | No                  | 1.0                     | 0.02-1.0               | 2018              | NA              | TT            | Soil runoff   |
| Fluoride (ppm)                       | No                  | 0.815 Avg.<br>1.10 Max. | 0.587-1.10             | 2018              | 4               | 4             | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Nitrate (as Nitrogen) (ppm)          | No                  | 0.702                   | NA                     | 2018              | 10              | 10            | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.                              |
| Sodium (ppm)                         | No                  | 4.40                    | NA                     | 2017              | NA              | NA            | Erosion of natural deposits; used in water treatment  |
| Chlorine (ppm)                       | No                  | 1.58 Avg.               | 1.40-1.70              | 2018              | [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   |
| Combined Radium 226 & 228 (pCi/L)    | No                  | 1.22                    | NA                     | 2014              | 0               | 5             | Erosion of natural deposits   |
| Haloacetic Acids [HAA5] (ppb)        | No                  | 22.5 Avg.               | 1.20 - 30.0            | 2018              | NA              | 60            | By-product of drinking water disinfection   |
| TTHM [Total Trihalomethanes] (ppb)   | No                  | 35.65 Avg.              | 2.30-49.0              | 2018              | NA              | 80            | By-product of drinking water chlorination   |

| Contaminant<br>(Unit of Measurement) | Violation<br>Yes/No | 90th Percentile | # Sites over AL | Date of<br>Sample | MCLG | AL  | Likely Source of Contamination   |
|--------------------------------------|---------------------|-----------------|-----------------|-------------------|------|-----|--|
| Copper <sup>2</sup> (ppm)            | No                  | 0.294           | 0/30            | 2017              | 1.3  | 1.3 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives |
| Lead <sup>2</sup> (ppb)              | No                  | 3.0             | 1/30            | 2017              | 0    | 15  | Corrosion of household plumbing systems; erosion of natural deposits                                   |

<sup>1</sup> 100.0% of our samples were below the turbidity limit required for each of our treatment plants. Turbidity is a measurement of the cloudiness of water. The highest turbidity was reported from our Hampton Spring Source.

<sup>2</sup> During the most recent round of Lead and Copper testing from homes served by our water system 1 out of 30 households sampled contained concentrations exceeding the action level. 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 at (800-426-4791) or at <http://www.epa.gov/safewater/lead>

### UCMR4( Unregulated Contaminant Monitoring)

| Contaminant<br>(Unit of Measurement) | Violation<br>Yes/No | Level<br>Detected | Range of<br>Detections | Date of<br>Sample | MCLG<br>[MRDLG] | MCL<br>[MRDL] | Likely Source of Contamination            |
|--------------------------------------|---------------------|-------------------|------------------------|-------------------|-----------------|---------------|---|
| Alcohols                             | No                  | ND                | ND                     | 2018              | NA              | NA            |   |
| Haloacetic Acids (HAA6) (ppb)        | No                  | 0.32              | .320-2.47              | 2018              | NA              | NA            | By-product of drinking water disinfection |
| Germanium                            | No                  | ND                | ND                     | 2018              | NA              | NA            |   |
| Pesticides                           | No                  | ND                | ND                     | 2018              | NA              | NA            |   |
| Manganese (ppb)                      | No                  | 0.427             | .427-.608              | 2018              | NA              | NA            | Erosion of natural deposits               |

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. For additional information call the Safe Drinking Water Hotline at (800) 426-4791.

## 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.

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

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

**Revised Total Coliform Rule (RTCR)** - This rule went into effect on April 1, 2016 and replaces the MCL for total coliform with a Treatment Technique Trigger for a system assessment.

## Pharmaceuticals in Drinking Water

Flushing unused or expired medicines can be harmful to your drinking water. Learn more about disposing of unused medicines at <https://www.tn.gov/environment/article/sp-unwanted-pharmaceuticals>.

## 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 Cody Eggers 895-0811, 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 sillcocks 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 423-895-0811 or email us at [ceggers@cityofelizabethton.org](mailto:ceggers@cityofelizabethton.org).

