



2016 Annual Water Quality Report

Citico WTP
Chattanooga, Tennessee
PWS ID: TN0000107

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda.
This report contains important information about your drinking water. Have someone translate it for you if needed.

A Message from the Tennessee American Water President

To Our Valued Customer:

Tennessee American Water has been providing water to Chattanooga and the surrounding area for 130 years. Each year, we provide you with our Annual Water Quality Report. Like so many years prior, we are pleased to report that your water meets or surpasses all state and federal water quality regulations.



Achieving water excellence is no small task. Quite a lot goes into bringing that water to your home. The miles of pipeline hidden below the ground, the facilities that draw water from the source, the plant where it's treated and tested. Our treatment plant operators, water quality experts, engineers, and maintenance crews work around the clock to make sure that water is always there when you need it.

Delivering high-quality, reliable water service to your tap around the clock also requires significant investment in our water infrastructure to upgrade aging facilities. We have invested more than \$184 million since 2000 to improve service to our customers.

We make continuous investments because we know we're delivering more than just water service. We deliver a key resource for public health, fire protection, the economy and overall quality of life. Our job is to ensure that quality water keeps flowing not only today, but well into the future. It's part of our commitment to you and the communities we serve.

We hope you agree that it's worth every penny and worth learning more about. Please take the time to review this report. It provides details about the source and quality of your drinking water, using the data from water quality testing conducted for your local water system from January through December 2016.

Thanks for allowing us to serve you.

Sincerely,

Valoria V. Armstrong
President, Tennessee American Water



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About American Water

With a history dating back to 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. The company employs approximately 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting www.amwater.com.

About Tennessee American Water

Tennessee American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water services to approximately 390,000 people in Tennessee and northern Georgia.

Source Water Information

The Tennessee American Water Citico Water Treatment Plant located in Chattanooga, Tennessee, draws surface water from the Tennessee River. Our goal is to protect our water from contamination 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 (high), moderately susceptible (moderate) or slightly susceptible (low) based on geologic factors and human activities in the vicinity of the water source. Tennessee American Water source is 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: <http://www.tn.gov/environment/article/wr-wq-source-water-assessment> or contact TDEC EAC at 1-888-891-8332 (1-888-891-TDEC) to obtain copies of specific assessments. Tennessee American Water can also be contacted at 1-866-736-6420 to obtain a copy of the source water assessment specifically for our company.

Think before you flush! Drug Disposal Program

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of Tennessee's waterways by disposing in one of our permanent pharmaceutical take back bins. There are nearly 100 take back bins located across the state, to find a convenient location please visit:

<http://tn.gov/environment/article/sp-unwanted-pharmaceuticalsyou>. Included are the following local sites:

Chattanooga Police Department (9am-4pm, 3204 Amnicola Hwy, Property Room), Hamilton County Sheriff's Department (9am-4pm, 2 locations – 6233 Dayton Blvd and 8395 Hickory Valley Road), Red Bank Police Department (9am-4pm, 3117 Dayton Blvd), East Ridge Police Department (7am-4pm, 4214 Ringgold Road), Signal Mountain Police Department (9am-4pm, 1111 Ridgeway Drive), Bradley County Sheriff's Office (2290 Blythe), and Cleveland Police Department (100 Church Street NE).

Area wide Drug Take Back day is April 29, 2017. Look for more information on Facebook, Twitter or our website.

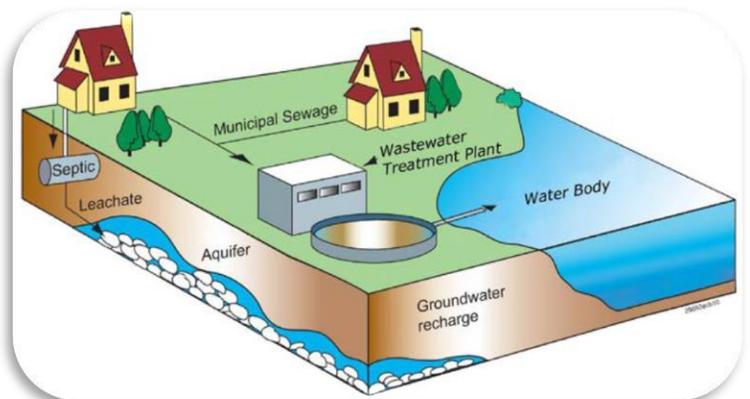
Community Participation

If you are interested in learning more about water quality at Tennessee American Water, please call us at (423) 771-4798. Our normal office hours are 8 a.m. to 5 p.m., Monday – Friday. We also encourage you to stay involved by:

- Reading the information provided in bill inserts and special mailings.
- Contacting the company directly with questions or to discuss issues and reviewing information on our website tennesseeamwater.com
- Attending events conducted by the company.
- Responding to survey requests.
- Like us on Facebook www.facebook.com/tnamwater
- Follow us on Twitter @tnamwater

How to Contact Us

For more information about this report, or for any questions relating to your drinking water, please call Dorothy Rader, Water Quality & Environmental Compliance Supervisor, or the Water Quality Lab at (423) 771-4749. For questions about your water bill, please call our Customer Service Center at (866) 736-6420



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Share This Report

Landlords, businesses, schools, hospitals and other groups are encouraged to share this important water quality information with water users at their location who are not customers of Tennessee American Water. Additional copies of this report are available by contacting us at (423) 771-4798.

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, including treatment plants, tanks, fire hydrants, etc. to 1-866-736-6420.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the US. Although *Cryptosporidium* can be removed through commonly-used filtration methods, US EPA issued a rule in January 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. Tennessee American Water monitored for *Cryptosporidium* and based upon our results, no additional treatment will be required by this US EPA regulation.

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 undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may 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 EPA's Safe Drinking Water Hotline (800) 426-4791.

Water Information Sources

- Tennessee American Water: www.tennesseeamwater.com
- Tennessee Department of Environment and Conservation: www.tn.gov/environment
- United States Environmental Protection Agency: www.epa.gov/safewater
- Safe Drinking Water Hotline: (800) 426-4791
- American Water Works Association: www.awwa.org

Remember to “Be Water Smart”

Wise Water Use Tips For Inside Your Home:

- Fix leaking faucets, pipes, toilets, etc
- Replace old fixtures; install water-saving devices in faucets, toilets and appliances
- Wash only full loads of laundry
- Do not use the toilet for trash disposal
- Take shorter showers
- Do not leave water running while shaving or brushing teeth
- Soak dishes before washing
- Run the dishwasher only when full

Wise Water Use Tips for Outside Your Home:

- Use mulch around plants and shrubs
- Repair leaks in faucets and hoses
- Use water-saving nozzles



Protecting Our Water Supply – Backflow Prevention

Tennessee American Water has a backflow prevention program that ensures proper installation and maintenance of thousands of backflow prevention devices throughout our system. These devices ensure hazards originating on the customers' properties and from temporary connections do not impair or alter the quality of water in our distribution system. For more information about Tennessee American Water's backflow prevention program, please visit our website at www.tennesseeamwater.com, or contact our Cross Connection Control Specialists at tawc.crossconnection@amwater.com or (423) 771-4701.



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Substances Expected to be in Drinking 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 call the U.S. Environmental Protection Agency's Safe Drinking Water Hotline (800) 426-4791.

In order to ensure that tap water is safe to drink, U.S. Environmental Protection Agency (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. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Tennessee American Water's water treatment processes are designed to reduce any such substances to levels well below any health concern.

The source of drinking water (both tap water and bottled water) includes 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.
- **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

How to Read the Water Quality Data Table

Tennessee American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the following tables. While most monitoring was conducted in 2016, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting this table, see the "Table Definitions" section.

Starting with a **Substance**, read across. **Year Sampled** is usually in 2016 or year prior. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (this may be lower than what is allowed). **Amount Detected** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means that the government requirement was met. **Typical Source** tells where the substance usually originates.

Table Definitions and Abbreviations

- **AL (Action Level)**: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- **BDL**: Below Detection Limit
- **LRAA (Local Running Annual Average)**: Average of the past four most recent quarterly data
- **MCL (Maximum Contaminant Level)**: 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.
- **MCLG (Maximum Contaminant Level Goal)**: 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.
- **MRDL (Maximum Residual Disinfectant Level)**: The highest level of disinfectant routinely allowed in drinking water. Addition of a disinfectant is necessary for control of microbial contaminants.
- **MRDLG (Maximum Residual Disinfectant Level Goal)**: The level of 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 contamination.
- **mrem/year**: Millirems per year (a measure of radiation absorbed by the body).



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- **NA:** Not applicable.
- **NTU – Nephelometric Turbidity Units:** Turbidity is a measure of the clarity of the water. Turbidity in excess of 5 NTUs is just noticeable to the average person.
- **pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- **ppm (parts per million) or mg/L (milligrams per liter):** One part substance per million parts water, or milligrams per liter, explained in terms of money as one penny in \$10,000.
- **ppb (parts per billion) or µg/L (micrograms per liter):** One part substance per billion parts water, or micrograms per liter, explained in terms of money as one penny in \$10,000,000.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.
- **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.

Water Quality Statement

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. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

We are pleased to report that during the past year, the water delivered to your home or business met or exceeded all state and federal drinking water requirements. For your information, we have compiled a list in the table, showing what substances were detected in your drinking water during 2016. Although all of the substances listed below surpasses or meets all federal and state water quality regulations, we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

Tennessee American Water – Citico WTP (Chattanooga) - 2016 WATER QUALITY DATA (PWS ID # TN0000107)

Regulated Substances

| Substance (units) | Year Sampled | MCLG | MCL | Amount Detected | Range | Compliance Achieved | Typical Source |
|--|----------------------------|-----------|----------------------|--------------------------|-------------|---------------------|---|
| Total Coliform | January 2016 – March 2016 | 0 | <5% positive samples | 0% | 0% | Yes | Naturally present in the environment |
| E.Coli ¹ | April 2016 – December 2016 | 0 | TT | 0% | 0% | Yes | Naturally present in the environment |
| Total Organic Carbon ² (TOC, ppm) | 2016 | NA | TT | 1.20 | 0.84 – 1.20 | Yes | Naturally present in the environment |
| Turbidity ³ (NTU) | 2016 | NA | TT | 0.77 | 0.04 – 0.77 | Yes | Soil runoff |
| Alpha emitters (pCi/L) | 2014 | 0 | 15 | 0.297 | 0.297 | Yes | Erosion of natural deposits |
| Beta/photon emitters ⁴ (pCi/L) | 2014 | 0 | 50 | 0.737 | 0.737 | Yes | Decay of natural and man-made deposits |
| Chlorine ⁵ (ppm) | 2016 | MRDLG = 4 | MRDL=4 | 1.45 (avg) 2.10 (max) | 0.45 – 2.10 | Yes | Water additive used to control microbes |
| Cryptosporidium ⁶ (oocysts/L) | 2016 | NA | TT | 0.182 | BDL – 0.182 | Yes | Naturally present in the environment |
| Fluoride (ppm) | 2016 | 4 | 4 | 0.78 (average) | 0.74 – 0.84 | Yes | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories |
| Nitrate (ppm) | 2016 | 10 | 10 | 0.28 (average) | 0.12 – 0.43 | Yes | Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits |
| Sodium (ppm) | 2016 | NA | NA | 6.6 (average) | 4.8 – 8.4 | Yes | Erosion of natural deposits; used in water treatment |



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Disinfection By-Products⁷

| Substance (units) | Year Sampled | MCLG | MCL | Amount Detected | Range | Compliance Achieved | Typical Source | Health Effects Language |
|-------------------------------------|--------------|------|-----|-----------------|-------------|---------------------|---|---|
| Total Trihalomethanes (TTHMs) (ppb) | 2016 | NA | 80 | 73.0 (LRAA Max) | 29.5 - 63.1 | Yes | By-product of drinking water chlorination | Some people who drink water containing trihalomethanes in excess of the MCL over many years could have problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer. |
| Haloacetic Acids (HAA5) (ppb) | 2016 | NA | 60 | 36.7 | 10.6 - 38.4 | Yes | By-product of drinking water disinfection | NA |

¹ System is in compliance for E.Coli MCL unless it has E.coli positive repeat sample for total coliform positive routine sample, total coliform positive repeat sample for an E.coli positive routine sample, system fails to collect all required routine samples, or system fails to test all positive total coliform samples for E.Coli.

² The treatment technique requirement for Total Organic Carbon was met 100% of the time in 2016.

³ 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. During 2016, 99.9% of all samples taken to measure turbidity met water quality standard of less than 0.3 NTU

⁴ The MCL for Beta/photon emitters is written as 4 mrem/year. EPA considers 50 pCi/L as the level of concern for beta emitters.

⁵ Chlorine levels as measured in the distribution system.

⁶ 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 our source water indicated the presence of cryptosporidium in X out of X samples tested. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at greater risk of developing severe, life threatening illness. Immuno-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. For more information on Cryptosporidium, contact the Safe Drinking Water Hotline (800-426-4791)

⁷ Disinfection by-products value reported for "amount detected" is the maximum locational running annual average. The range includes all samples analyzed during 2016.

Tap water samples were collected for lead and copper analyses from 54 households. None of the 54 homes exceeded the action level.

| Substance (units) | Year Sampled | Action Level | MCLG | Amount Detected (90 th %tile) | Range of Detections | Compliance Achieved | Typical Source |
|-------------------|--------------|--------------|------|--|---------------------|---------------------|--|
| Copper (ppm) | 2016 | 1.3 | 1.3 | 0.114 | BDL - 0.146 | Yes | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |
| Lead (ppb) | 2016 | 15 | 0 | 2 | BDL - 5 | Yes | Corrosion of household plumbing systems; Erosion of natural deposits |

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. Tennessee American Water - Citico WTP, Chattanooga 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

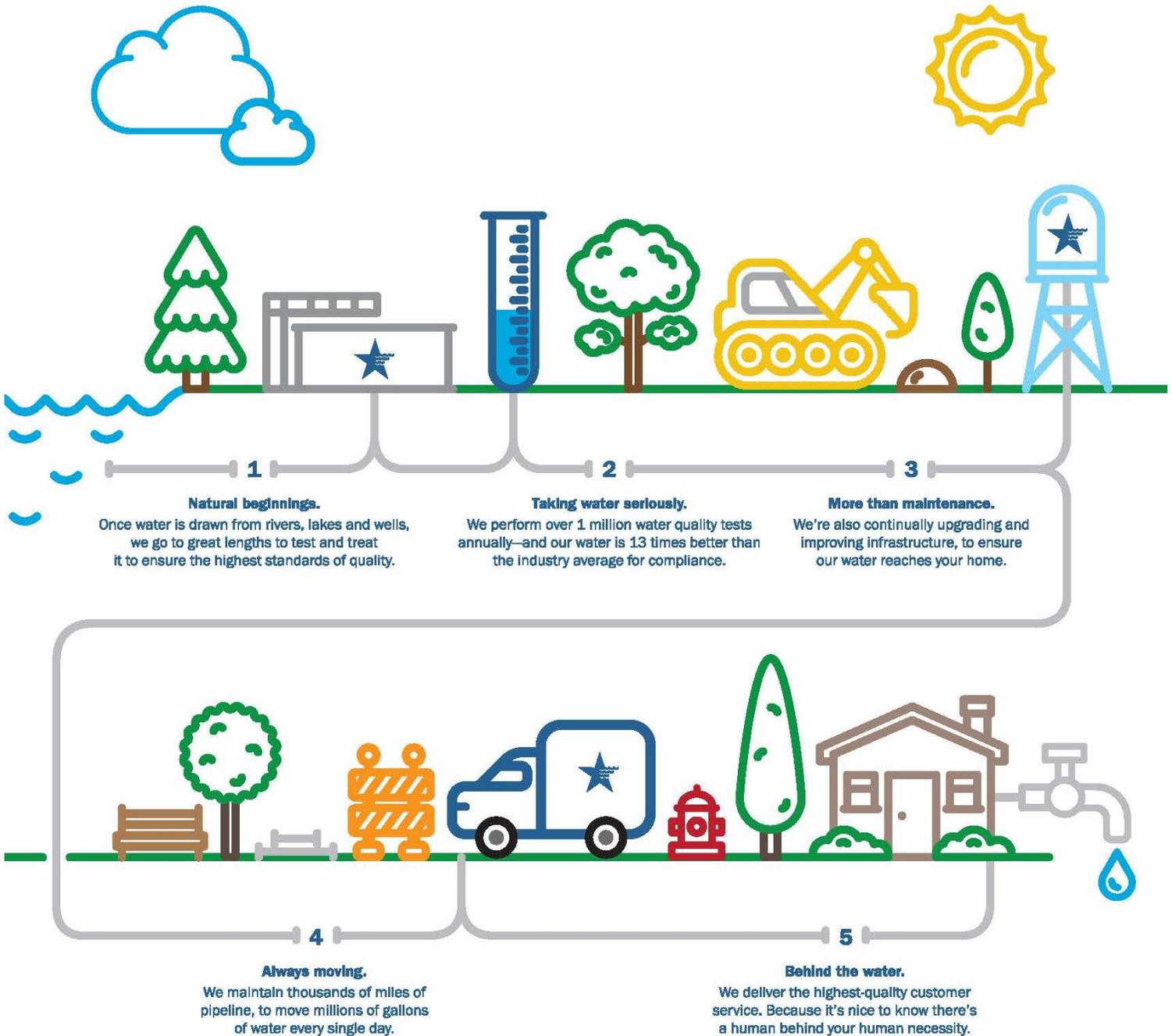
Additional Water Quality Parameters of Interest

| Substance (units) | Year Sampled | Amount Detected (average) | Range |
|--------------------------|--------------|---------------------------|---------------|
| Alkalinity (ppm) | 2016 | 60 | 47 - 66 |
| Hardness (ppm) | 2016 | 76 | 57 - 83 |
| Hardness (grains/gallon) | 2016 | 4.4 | 3.3 - 4.8 |
| pH (units) | 2016 | 7.1 | 7.0 - 7.2 |
| Temperature (° Celsius) | 2016 | 21.9 | 12.6 - 29.6 |
| Zinc (ppm) | 2016 | 0.121 | 0.110 - 0.131 |



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There's value in every drop.

However you use it, your water costs only about a penny a gallon. Even after all this.



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