

2011 Annual Water Quality Report



A+ WATER QUALITY FOR LESS THAN A PENNY

**Did you know that you pay less than
a penny for a gallon of your tap water?**

Providing high-quality water service is our business. Our team of water quality experts and certified operators monitor your water from source to tap, and we have an exceptional track record when it comes to water quality. **Our compliance record for meeting or surpassing state and federal drinking water standards was 100 percent last year.** That beats the national average.

Tap water: an exceptional value!

WE CARE ABOUT WATER. IT'S WHAT WE DO.

A Message from the Tennessee American Water President

To Our Valued Customer:

Tennessee American Water is proud to be your local water service provider, and I am pleased to share with you good news about the quality of your drinking water. Each year, we provide you with our Annual Water Quality Report — and like so many years prior — you'll find that we continue to supply water that meets or surpasses all state and federal water quality regulations.

This doesn't happen by chance. It requires having the right team of experts and technologies in place. Delivering high-quality, reliable water service to your tap around the clock also requires significant investment in our water infrastructure. In 2011 alone, we invested more than \$9 million in water system improvements in our community. From upgrading our treatment facilities to replacing aging water pipelines, we invest prudently and with purpose. And, because we invest our dollars responsibly, we provide our water at LESS THAN a penny per gallon—an exceptional value for a service that is so essential to our daily lives.

We hope you agree, 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 2011. For an electronic copy of this report, visit us online at www.tennesseeamwater.com.

At Tennessee American Water, our customers are our top priority. Since 1887 Tennessee American Water has been committed to providing the highest quality drinking water and service possible to the Chattanooga area.

Sincerely,

Deron E. Allen
President, Tennessee American Water

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

This report contains important information about your drinking water. If you do not understand it, please have someone translate it for you.

About American Water

Founded in 1886, American Water is the largest investor-owned U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 7,000 dedicated professionals who provide drinking water, wastewater and other related services to approximately 15 million people in more than 30 states, as well as parts of Canada. More information can be found by visiting www.amwater.com.

About Tennessee American Water

Tennessee American Water, a wholly owned subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water services to more than 350,000 people in Tennessee and northern Georgia.

Source Water Information

Tennessee American Water 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 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: <http://www.tn.gov/environment/dws/dwassess.shtml> 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.

Community Participation

If you are interested in becoming involved in water quality concerns at Tennessee American Water, please call us at (423) 755-7613. 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.
- Attending events conducted by the company.
- Responding to survey requests.

How to Contact Us

For more information about this report, or for any questions relating to your drinking water, please call Susan Holmes, Water Quality Supervisor, at (423) 755-7649. For questions about your water bill, please call our Customer Service Center at (866) 736-6420.

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) 755-7613.

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 new 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 the new 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.state.tn.us/environment/dws

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 let the water run 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.

How to Read This 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 2011, 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 2011 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

• **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

• **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).

• **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):** 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):** 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.

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.

To ensure that tap water is of high quality, U.S. Environmental Protection Agency and the Tennessee Department of Environment and Conservations prescribe regulations limiting the amount of certain substances in water provided by public water systems. U.S. Food and Drug Administration 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 may 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.

During 2009 Tennessee American Water monitored for contaminants listed in the Unregulated Contaminant Monitoring Rule 2 (UCMR 2). The UCMR 2 monitoring revealed no detections for the contaminants as tested by the rule. 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. The results of all unregulated monitoring are available by contacting Tennessee American Water at 423-755-7649.

Water Quality Statement

We are pleased to report that during the past year, the water delivered to your home or business complied with, or was better than, 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 2011. 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.

Regulated Substances							
Substance (units)	Year Sampled	MCLG	MCL	Amount Detected	Range	Compliance Achieved	Typical Source
Total Coliform (% of positive samples)	2011	0	No more than 5% of the monthly samples can be positive	2.2%	0% - 2.2%	Yes	Naturally present in the environment
Total Organic Carbon ¹ (TOC) (ppm)	2011	NA	TT	1.94	1.00 - 1.94	Yes	Naturally present in the environment
Turbidity ² (NTU)	2011	NA	TT	0.22	0.03 - 0.22	Yes	Soil runoff
Alpha emitters (pCi/L)	2011	0	15	0.44	BDL - 0.44	Yes	Erosion of natural deposits
Beta/photon emitters ³ (pCi/L)	2011	0	50	1.29	0.657 - 1.29	Yes	Decay of natural and man-made deposits
Chlorine ⁴ (ppm)	2011	MRDLG=4	MRDL=4	2.16	0.07 - 2.16	Yes	Water additive used to control microbes
Fluoride (ppm)	2011	4	4	0.85 (average)	0.53 - 1.08	Yes	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2011	10	10	0.43	0.20 - 0.43	Yes	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits
Sodium (ppm)	2011	NA	NA	9.8	7.6 - 9.8	Yes	Erosion of natural deposits; used in water treatment

Disinfection By-Products								
Substance (units)	Year Sampled	MCLG	MCL	Amount Detected	Range	Compliance Achieved	Typical Source	Health Effects Language
Haloacetic Acids (HAA5) (ppb)	2011	NA	60	26.7 (2nd Quarter)	12.4 - 58.4	Yes	By-product of drinking water disinfection	NA
Total Trihalomethanes (TTHMs) (ppb)	2011	NA	80	53.7 (2nd Quarter)	33.9 - 93.8	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

¹ The treatment technique for Total Organic Carbon was met 100% for 2011.

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. We met the turbidity requirement in 2011 with 100% of samples less than 0.3 NTU.

³ 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.

⁴ Chlorine levels as measured in the distribution system.

Tap water samples were collected for lead and copper analyses from 54 homes in the service area

Substance (units)	Year Sampled	Action Level	MCLG	Amount Detected (90th %tile)	Number of Homes above Action Level	Compliance Achieved	Typical Source
Copper (ppm)	2010	1.3	1.3	0.119	0	Yes	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2010	15	0	3	1	Yes	Corrosion of household plumbing systems; Erosion of natural deposits

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 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 Water Quality Parameters of Interest

This table shows average levels of additional water quality parameters which are often of interest to consumers. Values shown here are averages of operating data for 2011. Values may vary from day to day. There are no health-based limits for these substances in drinking water.

Additional Water Quality Parameters of Interest			
Substance (units)	Year Sampled	Amount Detected (average)	Range
Alkalinity (ppm)	2011	63	39 - 75
Chloride (ppm)	2011	11.8	7.3 - 14.0
Hardness (ppm)	2011	82	58 - 94
Hardness (grains/gallon)	2011	4.8	3.4 - 5.5
Sulfate (ppm)	2011	12.8	11.4 - 15.0
Temperature (°Celsius)	2011	19.7	6.7 - 31.0
Total Dissolved Solids (TDS) (ppm)	2011	104	104
pH (units)	2011	7.1	7.0 - 7.3
Chromium 6 (ppb)	2011	0.08	0.07 - 0.08

Chromium 6 is not currently regulated as an individual substance. Tennessee American Water voluntarily performed this monitoring based on recommendations from USEPA. For more information on chromium 6, please visit our web site. 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.