



# TOWN OF SMYRNA

# WATER SYSTEM

## 2013 Annual Water Quality Report



January 2013 - December 2013



SMYRNA WATER TREATMENT PLANT

### What is a Water Quality Report?

The Town of Smyrna Water System is committed to delivering to you, our customer, water that meets or exceeds federal and state requirements. This report shows that we are doing just that.

While you may not even think about what it takes to purify and deliver water to your home, it is our priority every day. We invest in protecting our water resources for both present needs and for the future.

The drinking water analysis table on the following pages provides the results of our testing program and identifies the goals set by the federal government to protect public health. We have provided a key to help you understand the table.

For more information on the quality of your drinking water call the Smyrna Water Treatment Plant at (615) 459-3574 and speak with Kevin Relford, Manager or Robbie Land, Assistant Manager. The Town of Smyrna Council meets in the Town Hall Council Room every 2<sup>nd</sup> Tuesday of the month at 5:00 p.m. The Council meetings provide an opportunity for public participation in decisions that may affect the quality of the water. For more information regarding Council meetings please contact Roseanne Peppers at (615) 459-2553.

### Who provides my water?

You are a customer of the Smyrna Water System a department within the Town of Smyrna municipal government. We treat water in a manner that is safe for your family and the environment. The Smyrna Water Treatment Plant treats drinking water using state-of-the-art equipment and ensures water quality through continued monitoring and testing. Tap water is delivered to approximately 16,500 customers in the Smyrna Water System.

## Excellence - Commitment - Responsibility

We are pleased to deliver our 2013 Water Quality Report, which shows that the water provided to you by the Smyrna Water System meets or exceeds all federal and state drinking water standards. The water is tested and checked continuously each day to make sure it is safe. Thousands of tests are performed each month on the water that leaves the treatment plant, and also as it moves through the distribution system to your homes, businesses, and industries.

We provide safe, quality drinking water to you 24 hours a day, seven days a week, 365 days a year because we know that safe, quality drinking water is vital to the health and well being of our community.

### Where does my water come from?

Your water, which is surface water, comes from the Stones River/J. Percy Priest Lake. 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 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. The Smyrna Water System 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).

Copies of this source water assessment can also be viewed at Smyrna Town Hall in the Utilities department, the Smyrna Library, or the Smyrna Water Treatment Plant.

The sources of drinking water (both tap 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 storm water 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 storm water 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 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 and the Tennessee Department of Environment and Conservation prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 EPA's Safe Drinking Water Hotline (800-426-4791).



**Notice To People With Health Concerns**

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 people, 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

**Concerning Lead in Our Water**

If present, elevated levels of lead (atomic symbol Pb) 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 Smyrna Water System 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>.

**Why is there someone flushing the fire hydrant in my neighborhood?**

The Smyrna Water System regularly flushes hydrants to prevent the build-up of mineral deposits and to better regulate chlorine residuals in the system.

**LET'S WORK TOGETHER  
TO CONSERVE SMYRNA'S WATER!**



**EVERY DROP COUNTS!**



**\*\*Important\*\* Cross-Connection Safety Information**

The Tennessee Division of Water Supply requires all public water systems in the state to operate an on-going program to protect the public water supply from possible cross-connections. The most effective method for Smyrna Water Utilities to meet this requirement is to require customers to install a backflow preventer on the main supply line to their property or facility, thus protecting the community from any cross-connections that may be present inside a customer's plumbing system. All water users benefit from an active, on-going cross-connection control program that includes the installation of backflow preventers where required by state regulations and local codes.

The backflow preventer is installed to protect the public water supply against possible hazards in the customer's plumbing system. The actual or potential cross connection belongs to the property owner and not the regulatory agency or Smyrna Utilities. Once the water goes beyond the meter in many cases the water quality is altered. Smyrna Utilities does not want the water back, nor do other water customers want to purchase used water. If a backflow preventer is required to keep the water safe, then the person who purchased, installed, and maintained the cross-connection (actual or potential) should purchase, install, and maintain the backflow preventer. For questions concerning cross-connection control, please contact Randy Roberts at Smyrna Utilities (615) 459-9752.

**Key to Understanding the Laboratory Analysis Results Table ▶▶▶▶▶**

The table shows the results of the Smyrna Water System's laboratory analysis of your water during the period of January through December 2013. We monitor for some contaminants less than once per year, and for those contaminants, the date of the last sample is shown in the table. The table lists the name of each substance tested, the maximum level allowed in the drinking water (MCL), the ideal goals for public health (MCLG), the amounts detected and the range of levels detected. Also noted is the usual source of such contamination and an explanation of our findings.

**AL: Action Level**, the concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

**MCL: Maximum Contaminant Level**. The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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

**TT: Treatment Technique**: A required process intended to reduce the level of a contaminant in drinking water.

**ppm**: parts per million or milligrams per liter.

**ppb**: parts per billion, or micrograms per liter.

**N/A**: Not applicable.

**NTU**: Nephelometric Turbidity Unit, a measure of particles in the water.

**RAA**: Running Annual Average is the average of four consecutive quarters. Used in determining compliance for the TTHMs and HAAs.

# 2013 Laboratory Analysis Results

INORGANIC CONTAMINANTS								
Contaminant	Test Date	Unit	MCL	MCLG	Detection	Range	Sources	Violation
<sup>1</sup> Copper	2011	ppm	1.3	1.3	0.160 (90th percentile)	0.003 - 0.38	Household plumbing corrosion, erosion of natural deposits, leaching of wood preservatives	No
Fluoride	2013	ppm	4	4	0.90	0.12 - 0.90 Annual Ave. 0.65	Erosion of natural resources, additive to promote strong teeth, discharge from fertilizer and aluminum factories	No
Nitrate	11/22/2013	ppm	10	10	BDL <0.10	<0.10	Fertilizer runoff, leaching from septic tanks, sewage, erosion of natural deposits	No
<sup>1</sup> Lead	2011	ppb	15	0	1.5 (90th percentile)	1 - 3.80	Erosion of natural resources, household plumbing corrosion	No
Sodium	11/22/2013	ppm	N/A	N/A	28.0	28.0	Ubiquitous in the environment	No

ORGANIC CONTAMINANTS								
Contaminant	Unit	MCL	MCLG	Detection	Range	Sources	Violation	
Total Trihalomethanes (TTHMs) Stage 1 & 2 2013***	ppb	80	N/A	53.68 Annual Avg.	30.875 - 92.400	By-product of water chlorination	<b>Yes*****</b>	
Haloacetic Acids (HAAs) Stage 1 & 2 2013****	ppb	60	N/A	46.3 Annual Avg.	25.775 - 70.975	By-product of water chlorination	<b>Yes*****</b>	
Chlorine	ppm	MRDL = 4	MRDLG = 4	Annual Ave. = 2.42	1.69 - 3.68	Disinfectant added to kill pathogens	No	
Total Organic Carbon (TOC)**	ppm	TT	N/A	Annual Ave. = 1.81	0.95 - 3.25	Naturally present in the environment	No	

TURBIDITY								
Turbidity*	NTU	TT	N/A	.130	0.012 - 0.13 Ave. 0.032	Soil Runoff	Violation	
							No	

MICROBIOLOGICAL CONTAMINANTS								
Coliform	Total: (MCL = Less than 5 % of samples / month)		0%	0%	0%	Naturally present in the environment	No	
	Fecal: (MCL = 0% samples)		0%	0%	0%	Animal or human waste		
	100% of samples tested negative for fecal coliform							

VOLATILE ORGANIC COMPOUNDS — (Unregulated Contaminants)								
Contaminant	Test Date	Unit	MCL	MCLG	Detection	Range	Sources	Violation
Bromodichloromethane	09/12/2013	ppb	N/A	N/A	0.0158	0 - 0.0158	By-product of water chlorination	No
Chloroform	09/12/2013	ppb	N/A	N/A	0.0327	0 - 0.0327	By-product of water chlorination	No

\* We met the treatment technique for **turbidity** in 2013 with at least 95% of samples being less than 0.3 NTU.

\* **What is turbidity?** Turbidity has no health effects; however turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms including bacteria, viruses, and parasites.

\*\* **Total Organic Carbon** - We met the treatment technique for total organic carbon in 2013.

\*\*\* **Trihalomethanes** - Some people who drink water containing **Trihalomethanes** in excess of the MCL over many years may experience problems with their livers, kidneys, or central nervous systems, and may have a risk of getting cancer.

\*\*\*\* **Haloacetic Acids** - Some people who drink water containing **Haloacetic Acids** in excess of the MCL over many years may have an increased risk of getting cancer. The actual risk has been identified as 1 out of 10,000 people may get cancer if they drink 2 liters of water each day for 70 years.

\*\*\*\*\* **Violation** - The Tennessee Department of Environment and Conservation advises that this situation does not require you to take any action and the water quality test data since July 2013 confirms that water quality in Smyrna has been well within EPA requirements for Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA's). The Smyrna Water System exceeded the Running Annual Average (RAA) MCL for TTHM's in the 1st and 2nd quarters of 2013 resulting in levels of 0.086 mg/L and 0.083 mg/L, respectively. The Smyrna Water System exceeded the RAA MCL for HAA's in the 2nd quarter of 2013 with a result of 0.065 mg/L. The Smyrna Water System returned to compliance with state regulations for Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (HAA'S) in the 3rd quarter 2013. The RAA for TTHM'S and HAA's for the 3rd quarter of 2013 was 0.049 mg/L and 0.052 mg/L, respectively and well within regulatory compliance. TTHM's and HAA's are disinfection byproducts resulting from our chlorination of the water to minimize risk of microbial life in the drinking water. The EPA considers microbial contaminants as the greatest risk to the public. We have been evaluating the results of the required disinfection and will continue making an effort to reduce the disinfection byproducts without increasing the microbial risks. We continue to monitor and evaluate our processes to ensure that you receive the highest quality water possible.

1. **Copper and Lead:** Data presented are from the most recent testing done in accordance with state of Tennessee and EPA guidelines. One of the thirty households tested exceeded the action level for lead. Zero of the thirty households tested exceeded the action level for copper.

### What is the hardness of our water?

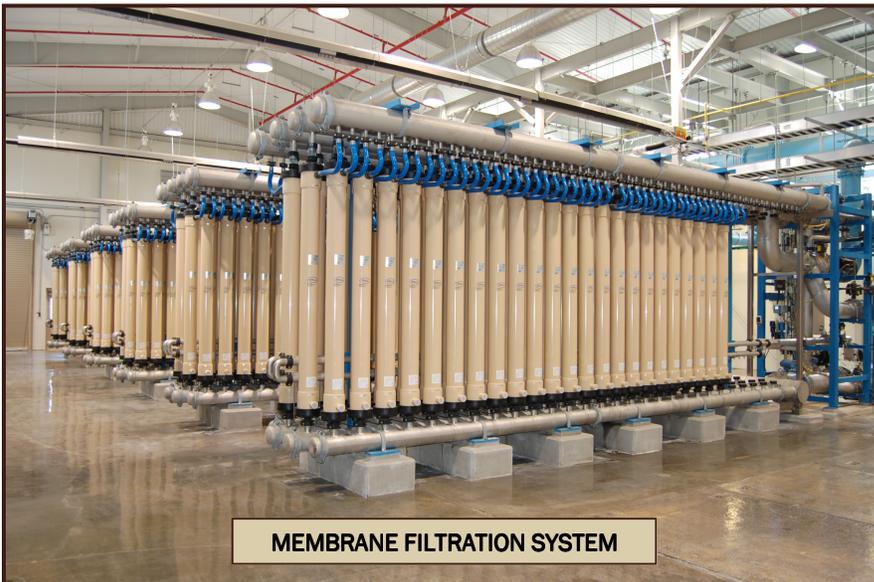
This is the question asked most frequently from our customers. The hardness of our water for 2013 was 80 to 100mg/L (4.6 to 5.8 grains/Gal). If you have an in-house softening unit, the grains per gallon set-point should be set to a range of 4.6 to 5.8 for the hardness range (80 to 100 mg/L).

Our new lime softening system has improved the capability for removal of iron, manganese, hardness and microbial pathogens. The aesthetic nature of manganese (yellow or brown water) and hardness (white flakes, deposits in water heaters) contribute to most of the problems from the treatment plant to the customer. These type of problems are practically eliminated through the new treatment process.

### Please Help Protect the Environment and Drinking Water Sources

You can make an important difference in safeguarding lives and the environment by taking a few small steps to properly dispose of unused, outdated prescription and over-the-counter medications. **DO NOT FLUSH** unused medications or **POUR** them down a sink or drain. Medications such as these travel through pipes to the Wastewater Treatment Plant. The Wastewater Treatment Plants are not designed to remove these medications and can pass through the treatment process eventually entering our waterways. To learn more about pharmaceuticals and drinking water visit <http://www.epa.gov/ppcp/>.

The Smyrna Police Department has installed a Drug Collection Box in an effort to provide medication disposal options for our citizens. Items that can be collected are non-narcotics, narcotics, over the counter medications, herbals, veterinary medicines and illegal drugs. Items that will not be accepted include bio-hazard materials, items in liquid form or needles/sharps, unless they are in appropriate containers. This Drug Collection Box is located at the Smyrna Justice Center, 400 Enon Springs Road, East.



MEMBRANE FILTRATION SYSTEM

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Town of Smyrna  
Water Treatment Plant  
156 Sharp Springs Road

Phone: 615-459-3574

Fax: 615-459-9703

Email: [kevin.relford@townofsmyrna.org](mailto:kevin.relford@townofsmyrna.org)

### QUESTION ABOUT YOUR SMYRNA UTILITIES BILL

Please call Smyrna Utilities Customer Service

**615-355-5740**

Monday - Friday 8:00 - 4:30 PM

### TO PAY YOUR BILL

Smyrna Town Hall — 315 S. Lowry Street

Office/Drive Thru \*\* Monday - Friday 8:00 - 4:30 PM

After hours we have a convenient drop box located next to our drive thru.

To pay by credit card please call 615-355-5705.

### Online Utility Payments

The Town of Smyrna now offers you the ability to pay utility bills online via the Town's website, [www.townofsmyrna.org](http://www.townofsmyrna.org). Payment can be made with credit cards, debit cards and checks.

Coinciding with online payments, utility payments and other fees and/or taxes that are paid with a credit card or debit card at Town Hall, called in, or online will be subject to an additional fee of \$2.45 per \$100. (For example: A \$100.01 Utility bill paid with a credit card will incur a fee of \$4.90). Additionally, online payments using a check will incur a flat charge of sixty cents per transaction. Payments made in person at Town Hall using cash or good check will not be subject to any additional fees.

It is recommended that utility customers sign up for automatic bank draft. Your utility bill will automatically be deducted from your checking account on the due date (the last date possible without a late charge). This can be easily set up by visiting Smyrna Utilities Customer Service in Town Hall, there is no additional charge for this service.



LIME SOFTENING SYSTEM



*WHETHER YOU COME FOR THE DAY OR COME TO STAY...  
YOU'RE ALWAYS WELCOME IN SMYRNA!*