
2005 Water Quality Report

Smyrna Water System

Annual report on the quality of our tap water



The big question...

Is the water safe to drink?

Absolutely! Drinking 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 filtration plant, as well as the water that travels through the distribution system to your homes, businesses, and industries. 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 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).

This report provides you with information about the water quality and explains the results. Our goal is to provide you with a safe and dependable supply of drinking water. For more information on the drinking water quality, call (615) 459-3574. The Town of Smyrna Council meets in the Town Hall Council Room every 2nd Tuesday of the month at 7:00 p.m. Here, there are opportunities for public participation in decisions that may affect the quality of the water. For more information on the Council meetings please contact Rosanne Peppers at 459-2553.

For any other information on you water quality, please contact Chris Lambert or Kevin Relford at the Smyrna Water Treatment Plant at (615)459-3574.

We at Smyrna Utilities work hard to maintain the best quality water at the lowest prices for the Town of Smyrna, Nolensville, and adjacent customers on our system.

Thank you for spending time reviewing this report on the Town of Smyrna Utilities water quality.

Where does my water come from?

The Town of Smyrna's water supplies are the Stones River and the headwaters of J. Percy Priest Lake. The sources are categorized as surface water.

How hard is our water?

The water drawn from J. Percy Priest Lake is hard/very hard with a 2005 hardness average of 200 ppm (mg/l) or about 11.7 grains/gallon.

Hardness is caused by naturally-occurring calcium and magnesium found in the water. Water is said to be hard because it is "hard" to make soap lather in water that contains these two minerals. Hardness helps contribute to the ring you may find in your bathtub, the scale you find in coffee pots or other pots when you boil water, spots on your glassware after they come out of the dishwasher or the white flakes you may find in the center of your ice cubes.

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.

What are those white flakes that sometimes get caught in the filter?

Many times these white flakes are pieces of the white plastic tubing used inside hot water heaters. The extremely hot water causes the dip tube in many hot water heaters to flake off. Years ago, these dip tubes were made of glass instead of plastic. The glass tubes would not flake but would sometimes break.

What is the quality of Smyrna's Source Water?

The State of Tennessee has conducted a Source Water Assessment on the quality of the water in Percy Priest Lake. Copies of this source water assessment can be viewed at Smyrna Town Hall in the Utilities department, the Smyrna Library, and the Smyrna Water Treatment Plant. The Source Water Assessment Plan may also be viewed by visiting the Department of Environment and Conservation's Web site at:

<http://www.state.tn.us/environment/dws>

What do all these technical terms mean?

One ppm (part per million) is equal to:

1 minute in two years...1 inch in 16 miles...1 pinch of salt in 416 bags of chips.

One ppb (part per billion) is equal to:

1.577 inches in the earth's circumference...A single penny in \$10,000,000.

!!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. Please watch for our cross connection survey to be mailed with one of your bills in 2006.

For questions concerning cross-connection control, please contact **Randy Roberts** at Smyrna Utilities **(615) 459-9752**.

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

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.

In order to ensure that tap water is safe to drink, EPA and the Tennessee Dept. 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).

Can anything be done about the earthy taste of my water?

Yes. The Smyrna Water System is addressing the taste and odor problems associated with natural organics from J. Percy Priest Lake with the addition of powdered activated carbon in the treatment process. We are also researching methods such as aeration to oxidize taste and odor constituents. Our goal is to not only provide a safe source of drinking water but to also produce a water that is pleasing to taste.

Many times, taste and odor problems can be resolved by flushing water lines. If you have questions or concerns regarding the taste or odor of your water, please call **J.C. York**, our Laboratory Supervisor, at the water treatment plant at **459-3574**.

Contaminant	Test Date	Unit	MCL	MCLG	Detection	Range	Sources	Violation
¹ Copper	7/19/2005	ppm	1.3	1.3	0.220 (90th percentile)	0.0037 - .0740	Household plumbing corrosion, erosion of natural deposits, leaching of wood preservatives	No
Fluoride	2005	ppm	4	4	1.33	0.53-1.33 Ave.0.90	Erosion of natural resources, discharge from fertilizer factories. (Product is added to promote strong teeth)	No
¹ Lead	7/19/2005	ppb	15	0	9.1 (90 th percentile)	1.1 - 9.1	Erosion of natural resources, household plumbing corrosion	No
² Atrazine	5/20/2005	ppm	0.003	0.003	0.00014 (AL = 0.0001)	Non-detectable - 0.00014	Runoff from herbicides	No
Nitrate	8/22/2005 & 10/24/2005	ppm	10	10	0.34 & 0.05	0.05 - 0.34 Ave. 0.195	Fertilizer runoff, leaching from septic tanks, sewage, erosion of natural deposits	No
Turbidity		NTU	0.3	N/A	0.29	0.03-0.29	Soil Runoff	No
³ Coliform	Total: (MCL =Less than 2 samples/month)			0%	2	0-2	Naturally Present	No
	Fecal: (MCL = 0% samples)			0%	0	0	Animal or human waste	
	100% of samples tested negative for fecal coliform.							
Total Trihalomethanes (TTHMs)		ppb	80	N/A	RAA = 49.03	20.7-96.5	By-product of water chlorination	No
Haloacetic Acids (HAA)		ppb	60	N/A	RAA = 45.01	11.0-81.0	By-product of water chlorination	No
Chlorine		ppm	MRDL=4	MRDLG=4	Annual Ave.= 2.6	1.9-3.4	Disinfectant added to kill pathogens	No

⁴Total Organic Carbon (TOC)	ppm	TT	N/A	Annual Ave.= 2.19	1.60-3.22	Naturally present in the environment	No
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Key to Understanding the Table

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.

RAA: Running Annual Average.

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.

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.

Footnotes from Laboratory Data:

1: Copper and Lead - Data presented are from the most recent testing done in accordance with state of Tennessee and EPA guidelines. 0 of the 30 households tested exceeded the action level for lead and copper.

2: Atrazine - Atrazine, usually runoff from herbicides, is taken annually unless the action level is reached (0.0001 ppm). All data from atrazine sampling until 5-20-05 was found to be below detectable limits. The water plant tested atrazine on 5-20-05 and found 0.00014 ppm, well below the MCL of 0.003 ppm, but did reach action level. We have tested for the chemical quarterly since and found no trace of atrazine.

3: Coliform - The Smyrna Water Treatment Plant lab pulled 2 positive total coliform samples at separate times in the distribution system (9-29-05, 10-19-05). Repeat sampling done in these locations proved negative results. Both positive samples were attributed to sampling error where the sample was contaminated either during the sampling procedure or during laboratory analysis.

4: Total Organic Carbon - The Smyrna Water Treatment Plant met the Treatment Technique for Total Organic Carbon in 2005. The plant removes many times twice the TOC required by the state.

SODIUM: Sodium is a metal that naturally occurs through erosions of natural deposits. The state establishes no MCL for sodium, but the plant does test for the metal annually. We tested the sodium content of Smyrna's finished water on 8/22/05. The result was 21.9 ppm.