

CITY OF WINCHESTER

2013 DRINKING WATER QUALITY REPORT

The City of Winchester, Public Utilities Department is pleased to present its 2013 Annual Water Supply and Quality Report. This report was prepared in accordance with the Virginia Health Department Rules and Regulations and the National Primary Drinking Water Regulations of the United States Environmental Protection Agency (EPA), which require every drinking water supplier to provide the public with an annual statement describing the water supply and the quality of its water.

Spanish Notice:

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

It is safe

Our tap water, provided by Winchester Public Utilities, is safe to drink and is of higher quality than required by all state and federal standards for drinking water. This same water is in compliance with all required water quality monitoring and reporting. The Safe Drinking Water Act (SDWA) has been the primary regulation to ensure that public health and safety is protected in drinking water supplies. Although this information has been available to anyone requesting it, this water quality report, part of the provisions of the Safe Water Drinking Act Amendments of 1996, is intended to share with you how well we are doing.

Every employee of Winchester Public Utilities is committed to producing drinking water that is of the highest quality. Our state-certified laboratory, located at the Percy D. Miller Water Treatment Plant, continuously analyzes water quality throughout the treatment process to ensure superior quality drinking water is delivered to our customers.

It is reliable

Your drinking water is surface water obtained from the North Fork of the Shenandoah River. This river supplies the City of Winchester with its daily water requirement, of an average of 6.19 million gallons per day for 2013. The treatment plant has been in operation since 1954 and has been upgraded as required to meet new regulations and water demands. The water goes through a six-step process before it becomes finished water and is pumped through 125 miles of pipe to you, our customer.

Winchester Public Utilities operates 24 hours per day, seven days per week to produce a reliable supply of superior quality drinking water, as well as to ensure sufficient water quantity, customer satisfaction and environmental integrity of our source water. Should you have any questions or concerns please contact us at 540-686-7173.

Source Water Assessment

Source water assessments for the City of Winchester were completed by the VDH on April and September 10, 2002. These assessments determined that the city's primary water source, North Fork Shenandoah River, may be susceptible to contamination because it is a surface water exposed to varying concentrations and changing hydrologic, hydraulic, and atmospheric conditions that promote migration of contaminants from land use activities of concern within its assessment area. More specific information may be obtained by contacting 540-686-7173.

Drinking Water & Your Health

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.

Cryptosporidium is a microbial pathogen found in surface waters throughout the United States. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection characterized by nausea, diarrhea, and abdominal cramps. Cryptosporidium may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks; however immuno-compromised people are at risk of developing a potentially life-threatening illness. In April 2006, the City of Winchester Public Utilities began a voluntary, two year, 48 sample study to determine the occurrence of Cryptosporidium in the raw water source for the Percy D. Miller water Treatment plant. Results of monitoring during this time period have shown no presence of Cryptosporidium in the source water. Public Utilities will continue to make every effort to optimize the filtration and disinfection unit processes at the Percy D. Miller water treatment plant to ensure the greatest degree of Cryptosporidium removal/inactivation should any be detected. 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).

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 include:

- (1) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

- (2) 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.
- (3) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (4) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production and can also, come from gas stations, urban stormwater runoff, and septic systems.
- (5) 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 prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

The following table lists only those substances that had some level of detection. All of the results in the table were from testing done during 2013. However, the State Health Department allows us to monitor for some substances less than once per year because their concentrations do not change frequently. Some of our data, although accurate, is over one year old. Over 100 substances were sampled for, but were either not present or below the detection levels. All drinking water, including bottled water, may reasonably be expected to contain small amounts of some substances. The presence of contaminants does not necessarily indicate that the water presents a health risk. More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791. You may also contact the Virginia Department of Health, Office of Water Programs, at (540) 463-7136.

City of Winchester Public Utilities Data Table 2013

Turbidity

Contaminant	MCLG	MCL	Highest Single Level Found	Unit Measurement	Lowest Monthly %<0.3 NTU	Violation	Sample Date	Typical Source of Contamination
Turbidity (1)	NA	TT	0.19	NTU	100	NO	05/2013	Soil Runoff

(1) Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration and disinfection process.

Total Organic Carbon

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Sample Date	Typical Source of Contamination
Total Organic Carbon (2)	NA	TT	1.6 Yearly Avg. 1.00 – 3.00 Range	Ratio of Actual to Required Removals	NO	12/2013	Naturally Present in Environment

(2) Total Organic Carbon (TOC) has no health effects but provides formation medium for disinfection by-products. These by-products include Trihalomethanes (TTHM) and Haloacetic acids (HAA5).

Radiological Contaminant

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Sample Date	Typical source of contamination
Alpha Emitter	0	15	ND	pCi/l	NO	01/20/2012	Erosion of Natural Deposits
Beta Emitter	0	50	4.1	pCi/l	NO	01/20/2012	Erosion of Natural Deposits
Combined Radium	0	5	ND	pCi/l	NO	01/20/2012	Erosion of Natural Deposits

Inorganic Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Sample Date	Typical Source of Contamination
Nitrates	10	10	1.88	Mg/l	NO	02/19/2013	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Barium	2	2	0.033	Mg/l	NO	02/19/2013	Erosion of natural deposits; Discharge from metal refineries; Discharge of drilling wastes
Fluoride	4	4	Avg. 0.79 Range 0.0 - 1.22	Mg/l	NO	02/19/2013	Erosion of natural deposits; deposits; Discharge from fertilizer and aluminum factories; Water additive, which promotes strong teeth.

Disinfectant and Disinfection Byproduct Contaminants

Contaminant	MCLG	MCL	Level Found	Unit Measurement	Violation	Sample Date	Typical Source of Contamination
Total Trihalomethanes (TTHM)	0	80	Avg. 26.0 Range 5.5 - 49	Ppb	NO	12/2013	By-product of water chlorination
Halo Acetic Acids (HAA5)	0	60	Avg. 24.1 Range 8.0 - 44	Ppb	NO	12/2013	By-product of water chlorination

Disinfectant and Disinfection Byproduct Contaminants Continued

Contaminant	MRDLG	MRDL	Level Found	Unit Measurement	Violation	Sample Date
Residual Chlorine	4	4	Avg. 2.48 Range 0.5 – 3.6	Mg/l	NO	Monthly

Lead and Copper

Contaminant	MCLG	MCL	Level Found	Unit Measurement	AL Exceeded	Samples >AL	Sample Date	Typical Source of Contamination
Lead	0	AL=15	1.1	Ppb	NO	0	06/2012	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	1.3	AL=1.3	0.42	Mg/l	NO	0		

*ND = Non-Detectable

Table Definitions

Maximum Contaminant Level, or MCL – the highest level of contaminant level allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Contaminant Level Goal, or MCLG – the level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.
Nephelometric Turbidity Unit, or NTU – A measure of water clarity.
Picocuries per liter, or pCi/l – A measure of radioactivity in water
Milligrams per liter, or Mg/l – One milligram per liter corresponds to 1 drop in 16 gallons water. (One milligram per liter is the same as one part per million parts)
Parts per billion or ppb– Parts per billion – One part per billion corresponds to 1 drop in 15, 750 gallons.
Action Level or AL– The concentration of a contaminant that triggers treatment or other requirements, which a water system must follow.
Treatment Technique, or TT – A required process intended to reduce the level of a contaminant in drinking water.

No Coliform Bacteria Found

A minimum of forty different system samples from thirty different locations throughout the collection system were analyzed for Fecal Coliform and E. coli bacteria each month. The results of these analyses found NO presence of either type of bacteria in any sample collected.

Lead and Copper

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. Winchester Public Utilities 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 15 to 30 seconds or until it becomes cold or reaches a steady temperature 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 United States Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791 or at <http://www.epa.gov/safewater/lead>.

What are we doing?

The City is continuing with the on-going effort of replacing some of the oldest water mains within the United States. Renovations and line replacement was completed on the Pedestrian Mall in early April of 2013. Sidewalks are currently being replaced on North Loudoun Street from Wyck to the City limits.

Projects scheduled for 2015 include:

- Water and sewer line replacement on South Kent Street from Millwood Avenue to Cork Street
- Replacement of residential and Industrial water meters

Frequently Asked Questions

At times, my drinking water looks "milky" when first taken from a faucet, but then clears up. Why?

Air becomes trapped in the water as it makes its long trip from the treatment plant and storage reservoirs to the customer. As a result, bubbles of air can sometimes cause water to appear cloudy or milky. This condition is not a public health concern. The cloudiness is temporary and clears quickly after water is drawn from the tap and the excess air is released.

At times I can detect chlorine odors in tap water. What can I do about it?

Chlorine odors may be more noticeable when the weather is warmer. Chlorine is a disinfectant and is added to the water to kill germs. The following are ways you can remove the chlorine and its odor from your drinking water:

- Fill a pitcher and let it stand in the refrigerator overnight.
(This is the most effective way to address a chlorine odor in drinking water.)
- Fill a glass or jar with water and let it stand in sunlight for 30 minutes.
- Pour water from one container to another about 10 times.
- Heat the water to about 100 degrees Fahrenheit.

- Once you remove the chlorine, be sure to refrigerate the water to limit bacterial regrowth.

Sometimes my water is a rusty brown color. What causes this?

Brown water is commonly associated with plumbing corrosion problems inside buildings and from rusting hot water heaters. If you have an ongoing problem with brown water, it is probably due to rusty pipes. It is recommended that you run your cold water for 2 - 3 minutes, if it has not been used for an extended period of time. This will flush the line. You can avoid wasting water by catching your “flush” water in a container and using it to water plants or for other purposes. Brown water can also result from street construction or water main work being done in your area. Any disturbance to the main, including the opening of a fire hydrant, can cause pipe sediment to shift, resulting in brown water. The settling time will vary, depending on the size of the water main.

Should I buy bottled water?

You do not need to buy bottled water for health reasons in the City of Winchester since our water meets all federal and State health department-based drinking water standards. In addition, bottled water costs up to 1,000 times more per year than Winchester’s drinking water.