2014 Water Quality Report

Water

People BEHIND *OUR* WATER...

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

Water Quality Reports

Please call

423-229-9416

For Water Billing Info

Annual Water Quality Report

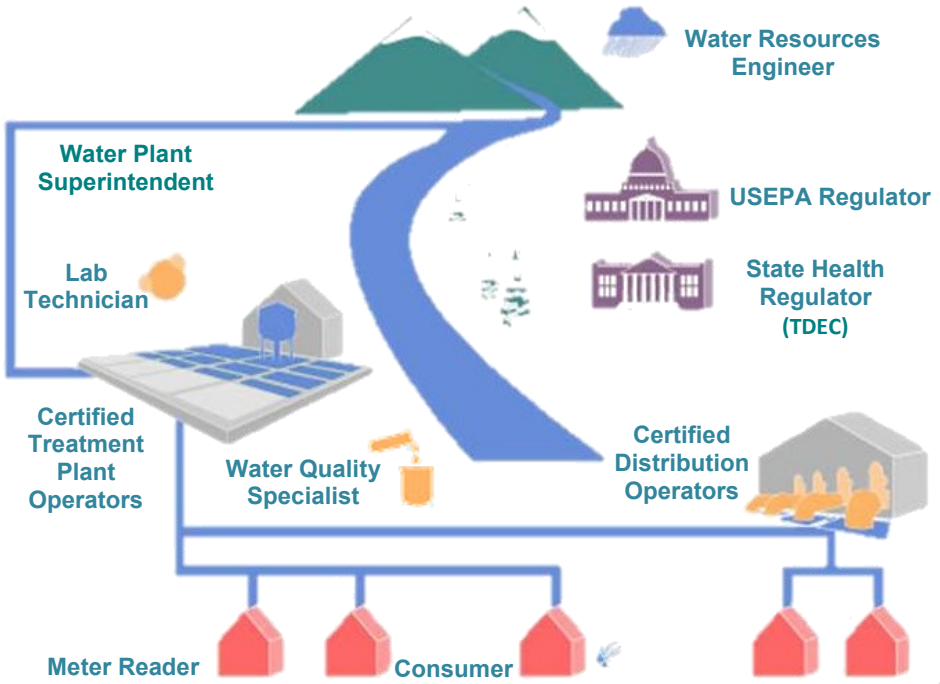
Kingsport Water Department

Dear Customer,

The Kingsport City Water Department continually strives to provide its customers the safest drinking water possible. This brochure is a summary of the quality of water provided by the Water Department to its customers last year. It is a report reflecting the department's hard work and dedication to bringing you water that is absolutely safe to drink.

Included in this summary is information about where your water comes from, what it contains, and how it compares to standards forth by the State of Tennessee and the United States Environmental Protection Agency (USEPA).

The Water Department is committed to providing you, our customers, the safest, cleanest drinking water possible. We believe customers who are well informed are our best allies in supporting improvements necessary to maintain high water quality standards.



In the water-quality sector, laboratory technicians help the water quality specialists, and treatment-plant operators. Responsible for: measuring the level of microorganisms in source water and treated water; measuring other water-quality conditions, such as alkalinity, fluoride, pH, turbidity, and hardness; checking the level of disinfectants at the treatment plant and throughout the distribution system; recording and reporting results to state regulators. More than 400 hundred samples are collected and analyzed per month in our lab.

Water

People BEHIND *OUR* WATER...

LAB TECHNICIAN

Water Quality Reports

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WHO DO I CALL?

Questions about this report:
Contact Ron Haynes at 229-9410.

Questions or concerns about a potential cross connection?
Contact Jason Starnes at 229-9454.

Questions concerning your bill, arranging for water service or reestablishing service?
Call Customer Service at 229-9416 or 229-9417.

To report water quality problems, low pressure, a broken water main, water leak in the streets or at the meter:
Call Customer Service at 229-9416 or 229-9417.

After hours emergency
246-9111

To report suspicious activity to any water facility, including treatment plants; water storage tank, fire hydrants, etc.
Call 911 or 229-9452.

For more information about the Storm Water Program or to report illegal discharges into the storm drain system,
Call (423) 224-2727.

If you are interested in learning more about the Water Department, or participating in the decision-making process, contact our Community Relations and Training Officer at 229-9413. The Board of Mayor & Aldermen meets on the 1st and 3rd Tuesday of each month at 7:00 p.m. in the City Hall Conference Room. This grants opportunities for the general public to voice opinions and/or concerns about decisions that affect the quality of their drinking water.

Kingsport's Water Filtration Plant staff have more than 200 years of collective experience, and is comprised of the following positions: W/WW Facilities Manager; Plant Superintendent; Grade III and Grade IV Operators; Maintenance Worker; Lab Technician; Plant Mechanics; and Equipment Operator.




Producing and delivering the highest quality drinking water takes training, knowledge, and attention to detail. Water operators do it every day with the top training and best practices. Independent judgment must be used when accomplishing tasks. The water treatment plant operator manages all aspects of daily operations to meet customer demand: pumping, treatment and water quality. They must accurately perform bacteriological tests, keep records, and, prepare clear and concise reports of water operations as required by state and federal regulations.

Water | **People BEHIND *OUR* WATER...** | **CERTIFIED TREATMENT PLANT OPERATORS**

Water Quality Reports

Please call 423-229-9416 for Water Billing Info

Origin

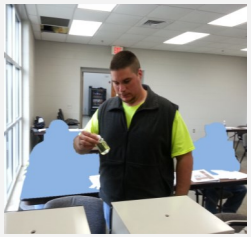
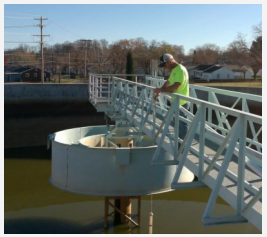
Your water, which is surface water, comes from the South Fork Holston River. Our goal is to protect our water from contaminants and we have worked with the State to determine the vulnerability of our water source to potential contamination. The Tennessee Department of Environment and Conservation (TDEC) 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, moderately susceptible or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. The Kingsport 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 the EPA can be viewed online at - http://www.tn.gov/environment/water/water-supply_source-assessment.shtml or you may contact the Water System to obtain copies of specific assessments.

Cross Contamination Control

Over the next few months, the warm weather will bring people outdoors to work in their yards and gardens and begin getting swimming pools ready. The Kingsport Water System would like to ensure that our customers are aware of the dangers associated with these activities. An ordinary garden hose is a common way to contaminate a water supply. When the hose is submersed in any liquid or attached to certain devices used to spray pesticides or herbicides, this forms a cross connection. A cross connection is a situation where a possible source of contamination is directly linked to our public water system. If the end of your hose is connected to a chemical container, swimming pool or other contaminant during a water main break or fire, the substance can be siphoned back into the water system. This condition, known as back siphonage, could cause a public health hazard. Devices are available to prevent this problem; however the best solution is to always be careful how you use your water hose.

Please help us provide a safe supply of water to all of our customers. Remember: never place your water hose in anything you would not want to drink. information on cross connections and how to protect against them, call our office at: (423) 224-2635.


Certificates of Competency are issued to operators for successfully completing certification requirements - meeting specific education and experience requirements; and successfully completing a written exam. The "Water Environmental Health Act" establishes certification of operators, and Tennessee's environmental regulations require that water treatment plants have a certified operator in direct responsible charge. The Water and Wastewater Operator Certification Board recognizes and supports the efforts of these individuals to better protect the public health and waters of our state.

Water

People BEHIND *OUR* WATER... CERTIFIED TREATMENT PLANT OPERATORS

Water Quality Reports

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A Treatment System

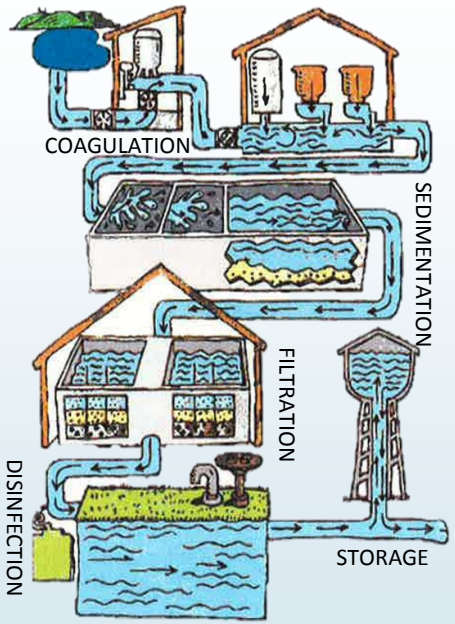
At the treatment plant, shortly after the "raw" (untreated) water is pumped to the treatment plant it enters the flash mix where it is treated with both chlorine and a coagulant.

Beginning chlorination here allows the chlorine a longer contact-time, thus giving the chlorine more time to react with microorganisms. Coagulants cause light, fine materials suspended in the water to clump together into larger heavier particles.

Next, the slow flow thru the sedimentation basin allows the heavier particles to settle out. Sedimentation removes the majority of the sediment from the water.

Filtration, the next step, removes the remaining suspended material, lowering the turbidity level to well below the state's maximum containment level (mcl). The filtered water is then treated with chlorine for disinfection and fluoride to reduce tooth decay.

The "finished" water is then pumped into the distribution system for public use.



Lead and 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. The City of Kingsport 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 at (1-800-426-4791) or http://www.epa.gov/safewater/lead

Our Distribution Specialists are very unique in their abilities and responsibilities within the water system. They are responsible for the quality of the water, overseeing the work of Water Quality Control Specialists and they help to reduce non-revenue water by searching for water leaks with cutting edge technology. The system maintains nearly 4,500 passive leak detectors throughout the system. These detectors are monitored and maintained by the Distribution Specialists and his crew. When one of the detectors show that a possible leak is occurring, they investigate using an array of technologies to accurately locate the leak and pass along that information to water maintenance crews for repair. To date, the program has helped to locate over 100 leaks that otherwise would not have been found, saving the system water and money.

Water | People BEHIND *OUR* WATER... | CERTIFIED DISTRIBUTION OPERATORS

Water Quality Reports

Please call 423-229-9416 For Water Billing Info

Sources and Substances

What types could be in my water?

As water travels over the surface of the land it dissolves naturally occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or humans. Although these substances could be present in "raw" water, our water meets all of the EPA's health standards. We have tested for over 80 substances that may be present in our drinking water.

Substances that may be present in "raw" water include:

Microbial organisms, such as viruses and bacteria, which may be from sewage plants, septic systems, agricultural livestock operations and wildlife.

Inorganic compounds, such as salts and metals, which can be naturally occurring or result from 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, storm water runoff and residential uses.

Organic chemicals including synthetic and volatile organic chemicals, which are the by-products of industrial processes and petroleum production, and can also come from gas stations, storm water runoff and septic systems.

Radioactive material, which can be naturally occurring, or be the result of oil and/or gas production and mining activities.

We found all of these substances to be at safe levels.

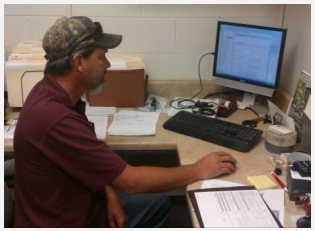
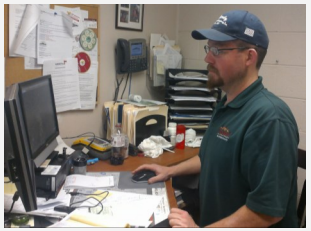
You Can Help Protect the Environment and Drinking Water Sources

A few small steps can make an important difference in safeguarding lives and protecting the environment. Follow your medication prescriber's instructions and use all medications as instructed. If you do not use all of your prescribed or over-the-counter medication, you can take a few small steps to make a huge impact in safeguarding lives and protecting the environment by disposing of unused medicines properly: DO NOT FLUSH unused medications or POUR them down a sink or drain.

These medications travel through pipes to the Wastewater Treatment Plant. Wastewater Treatment Plants are not designed to remove unused medications and can pass through the treatment process ultimately entering our waterways.

Unused medications can be disposed of at the Kingsport Police Department's DRUG DROP OFF ZONE located at the Justice Center. For more information please call 229-9433.

To learn more about pharmaceuticals and drinking water visit - http://www.epa.gov/ppcp/


In the world of water, quality is of the utmost importance. The Water Quality Control Specialists for the City of Kingsport respond to any water quality complaints within the system. They work with customers to determine the cause of any quality issues. These issues could be within our system but are just as likely to be within the customer's service. They also work daily to move water through our system to ensure quality remains high and the customers never have any concerns. They do this by flushing all of the dead end waterlines in our system, nearly 1,300, at least once annually. Another duty under their purview is the inspection and testing of all backflow prevention devices, almost 2,100, throughout the system on an annual basis. This ensures that low quality water does not re-enter our system after it goes into a customer's service lines.

Water | People BEHIND *OUR* WATER... | WATER QUALITY SPECIALIST

Water Quality Reports

Please call 423-229-9416 For Water Billing Info

Special Information

Should I be Concerned?

Do I need to take special precautions?

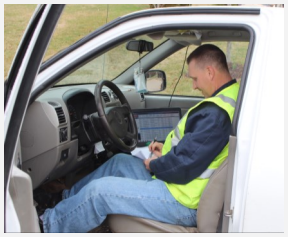
Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with AIDS/HIV or other immune system disorders, some elderly, and infants can be particularly at risk of infection. These people should seek advice about drinking water from their healthcare providers. EPA guidelines on appropriate means to lessen the risk of infection by microbiological organisms, contaminants, and potential health effects are available from EPA's Safe Drinking Water Hotline (1-800-426-4791).

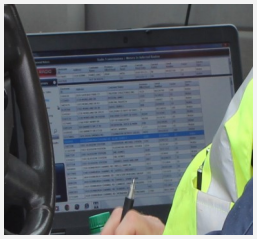
Safety Standards

Is My water safe to drink?

The presence of contaminants does not necessarily indicate that the water poses a health risk. Most drinking water, including bottled water, contains small amounts of some contaminants. In order to ensure your tap water is safe, the Environmental Protection Agency (EPA) and Tennessee Department of Environment and Conservation prescribes 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; however, they are not required to submit a water quality report to the public.

We are proud to report that Kingsport's water meets or surpasses all EPA and State health regulations. As demonstrated by the test results, the Kingsport Water Department conducts regular tests for numerous contaminants, and has found few. The existing contaminants are all well below the maximum safe levels.





Responsible for installing, maintaining, and reading the system's almost 37,000 meters. These meters range in size from 5/8" to 12". They read the meters using automated meter reading technology. A computer is used along with a data recorder to drive around the system and obtain meter readings. Using this technology, one meter reader can read over 2,000 meters on a daily basis. Once they are done reading, they turn to maintaining the meters and making sure they are measuring accurately. They do this by testing meters against calibrated meters to make sure they are reading within industry standards. Unfortunately, another aspect of their job is to turn meters off when customers don't pay their bills. They will all tell you that this is the hardest aspect of their job but one that is vitally important. We cannot provide reliable service and keep our costs down unless everyone pays their fair share of the water they use.

Water

People BEHIND *OUR* WATER...

METER READER

Water Quality Reports

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Treatment System
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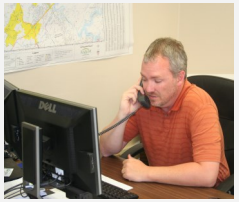
Definitions & Abbreviations

Please call 423-229-9416 for Water Billing Info

Contaminant	Violation Yes / No	Level Found	Range of Detected	Date of Sample	Unit of Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	No	2.44%		2014	N/A	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Turbidity[1]	No	0.05	0.04—0.05	2014	NTU	N/A	TT	Soil runoff
Copper	No	90th% - 0.44	0 of 30 Samples Above AL	7/17/14	ppm	1.3	AL—1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	No	0.948	0.585—0.948	2014	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead[2]	No	90th% - 3.5	0 of 30 Samples Above AL	7/17/14	ppb	0	AL—15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate[3]	No	0.53		10/02/14	ppm	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits
Sodium	No	5.4		1/22/14	ppm	N/A	N/A	Erosion of natural deposits used in water treatment
TTHM[4] (Total trihalomethanes)	No	55.1	29.0—55.1	2014	ppb	N/A	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	48.1	24.0—48.1	2014	ppb	N/A	60	By-product of drinking water disinfection
Total Organic Carbon[5]	No	1.3	1.1—1.7	2014	ppm	TT	TT	Naturally present in the environment
Chlorine	No	1.8 Annual Avg.	1.8—1.9	2014	ppm	4	4	Water additive used to control microbes





The duties of the Water Resources Engineer for the City can vary widely. Some days are spent in the office poring over design plans from developers and other engineers, ensuring that their designs meet our specifications; or maintaining our system wide computer model and testing out new ways of operating the system. Other days are spent in the field assisting various crews in locating leaks, performing flow tests for future designs, replacing meters, trying out new technologies, etc. No one day is the same. The bottom line is that the engineer is there to assist others with any operational needs of the water system.

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Water Quality Reports

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Definitions & Abbreviations

Definitions & Abbreviations

AL — Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

BDL — Below Detection Limit.

MCL — Maximum Contaminant Level, or 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, or 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, or the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

MRDLG — Maximum Residual Disinfectant Level Goal, or 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 contaminants.

TT — Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water. Example: Kingsport adds a zinc–orthophosphate corrosion inhibitor to the drinking water to create a type of barrier in the underground lines and lines in the individual homes. This barrier comes between the flowing water and the pipe it is flowing through in order to keep contaminants that may come from the pipes from entering the water.

Turbidity Level — A measure of the cloudiness of water; it is a good indicator that our filtration system is functioning properly.

Units of Measure — Definitions for units of measure used in the CCR:

i. **ppm or mg/L** — Parts per million or milligrams per liter, explained in terms of money as one penny in $10,000.

i. **ppb or mcg/L** — Parts per billion or micrograms per liter, explained in terms of money as one penny in $10,000,000.

i. **pCi/L** — Picocuries per liter (a measure of radioactivity).

i. **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.

1ppb = 1 pinch of salt in a 10 ton bag of chips

[1]100% of our samples were below the turbidity limit.

[2]Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

[3] Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and if untreated may die. Symptoms include shortness of breath and blue baby syndrome.

[4]While your drinking water meets EPA's standard for trihalomethanes, it does contain low levels. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

[5]We have met all treatment technique requirements for Total Organic Carbon removal.