Consumer Confidence Report

Since 1939, customers have counted on KUB for safe, reliable, and high-quality drinking water. We are proud of our history of service and our excellent water quality record, and we are committed to maintaining it.

KUB's state-of-the-art Water Quality Laboratory performs about 100,000 tests annually—many more than required by law—to ensure your water is safe. And we check for over 150 contaminants to help protect our drinking water and waterways.

To meet our obligation to the future and maintain our excellent water quality record, KUB is focusing on renewing the more than 1,400 miles of pipe and dozens of pump stations and storage facilities that help deliver water to our community. Aging infrastructure is an issue for utilities across the nation, and KUB has successfully accelerated our rate of replacement for older pipes under Century II, our system replacement and maintenance program. KUB replaces 1 percent of our water system per year with pipe that has an average life of 100 years, which keeps us on a sustainable cycle.

Century II
KUB Investing for Another 100 Years

Replacement projects are expensive, but the investment in our community's health and future is worth it. And KUB's water is still a great value at about one-half cent per gallon.

I hope you find this Water Quality Report useful. We want you to be confident you'll get a reliable and abundant supply of safe water every time you turn on your tap. If you have questions, please call KUB at 524-2911.

Thank you,

Mintha Roach

Mintha Roach
KUB Chief Executive Officer

Drinking Water Sources

The sources of drinking water (tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water source is surface water from the Tennessee River, which supplies the Mark B. Whitaker Water Plant.

As water travels over land or through the ground, it dissolves naturally occurring minerals and, sometimes, radioactive material. It can pick up substances resulting from human activity or the presence of animals.

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 occur naturally 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 can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

KUB works with the Tennessee Department of Environment and Conservation (TDEC) to protect our water from contaminants. TDEC has a Source Water Assessment Program (SWAP) Report that assesses the susceptibility of untreated water sources to potential contamination. The SWAP rates sources as reasonably susceptible (high), moderately susceptible (moderate), or slightly susceptible (low) based on geologic factors and human activities near the water source.

KUB's water source is rated reasonably susceptible to potential contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. An explanation of the SWAP, Source Water Assessment summaries, susceptibility scorings, and the overall TDEC report to EPA can be viewed online at http://www.tn.gov/environment/water/water-supply_source-assessment.shtml, or you may contact KUB to obtain copies of specific assessments.

Protecting Our Source Water

Each of us can add to source water pollution without even knowing it. Here are ways you can help protect our source water and the environment.

- Take unwanted automotive products, cleaning products, pesticides, paint, lawn chemicals, etc. to a recycling center. Residents of Knoxville and Knox County can take waste to the Household Hazardous Waste Facility at 1033 Elm Street. For more information visit cityofknoxville.org/solidwaste/hazwaste.asp.
- Never flush unused medications down the drain or toilet. Instead, take them to collection sites or events or to the permanent drop box at the Knoxville Police Department Safety Building, 800 Howard Baker Jr. Avenue. For more information, see www.kub.org, Hot Topics Index, Unwanted Medicine Disposal.

Protecting the Public Water System

KUB routinely looks for cross connections between a customer's service and the public water system to protect water quality. Undetected cross connections can introduce contaminants into the water system. Customers with a potential cross connection must install a backflow device or use an air gap to help prevent contamination.

For residential customers, cross connections can occur where lawn irrigation systems, pools, saunas, water treatment or fire protection systems exist. Alternative water sources like wells, springs, and harvested rainwater can also pose a risk, if connected to your home's plumbing. Chemicals or stagnant water from those installations can potentially enter the public water system. If you have a potential cross connection or have any questions regarding cross connections, please contact KUB or visit kub.org.

KUB's Guide to Safe Drinking Water

For more information about KUB's water system and treatment process, see our guide online at www.kub.org. [Look for Drinking Water Guide under the Hot Topics Index on the home page.] The guide also has tips on protecting our source water and answers to some common water questions.

Water Safety Regulations

To ensure tap water is safe to drink, EPA and the Tennessee Department of Environment and Conservation (TDEC) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration (FDA) establishes regulations and limits for contaminants in bottled water, which must provide the same level of 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. For more information about contaminants and potential health effects, call the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Information for Consumers at Risk

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as people with cancer undergoing chemotherapy, people 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. Those people should seek advice about drinking water from their health care providers.

EPA/Centers for Disease Control and Prevention guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the EPA's Safe Drinking Water Hotline, 1-800-426-4791.

Contact Information:

For more information about contaminants and potential health effects, call the **EPA's Safe Drinking Water Hotline at 1-800-426-4791**. If you have questions about KUB's water or this report, contact **KUB at 524-2911** or visit our website at **www.kub.org**.

KUB's Board meets monthly in open public session. Please feel free to participate in the meetings. Information on regularly scheduled meetings can be obtained on our website or by calling KUB.

Información en Español:

Esta información es muy importante. Por favor traduscalo o hable con alguien que lo entienda bien. Para mas información en español, llame a KUB al numero de teléfono **524-2911 y oprima el numero 8.**

Water Quality Summary Table

Inorganic and Disinfection By-Product Monitoring				
Parameter	**MCLG or MRDLG**	**MCL or MRDL**	**Range or Level Detected**	**Likely Source in Drinking Water**
Barium	N/A	2000 ppb	25 ppb	Discharge of drilling wastes and metal refineries; erosion of natural deposits
Nitrate	10 ppm	10 ppm	0.54 ppm	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Fluoride	4 ppm	4 ppm	0.40 - 0.75 ppm (avg.0.62)	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminum factories
Sodium	N/A	N/A	11 ppm	Used in treatment process
Total Organic Carbon (Source)[1]	N/A	TT	1.5 - 2.5 ppm (avg 1.8)	Naturally present in the environment
Total Organic Carbon (Tap)[1]	N/A	TT	0.8 - 1.5 ppm (avg 1.2)	Naturally present in the environment
Total Trihalomethanes (THM)	N/A	80 ppb	Maximum LRAA: 53 ppb[2] Individual site range: 13 to 79 ppb	Byproduct of drinking water chlorination
Haloacetic Acids (HAA)	N/A	60 ppb	Maximum LRAA: 34 ppb[2] Individual site range: 16 to 42 ppb	Byproduct of drinking water chlorination
Chlorite	0.8 ppm	1 ppm	0.05 - 0.16 ppm (avg 0.05)	Byproduct of drinking water disinfection
Chlorine Dioxide	MRDLG = 0.8 ppm	MRDL = 0.8 ppm	0.10 - 0.27 ppm (avg 0.10)	Water additive used to control microbes
Chlorine	MRDLG = 4ppm	MRDL = 4 ppm	0.4 - 3.2 ppm (avg 1.7)	Water additive used to control microbes
Microbial and Turbidity Monitoring				
Total Coliform	0%	5%	0 - 2%[3]	Naturally present in the environment
Fecal Coliform and E. Coli	0	0	0	Human and animal fecal waste
Turbidity[4]	N/A	TT	0.03 - 0.19 NTU	Soil Runoff
Lead and Copper Monitoring Results: 2013				
Parameter	**MCLG**	**MCL**	**90th Percentile Level**	**Likely Source in Drinking Water**
Copper	1.3 ppm	AL=1.3 ppm	0.198 ppm	Customer plumbing and service connection
Lead[5]	0 ppb	AL=15 ppb	1.9 ppb	Customer plumbing and service connection

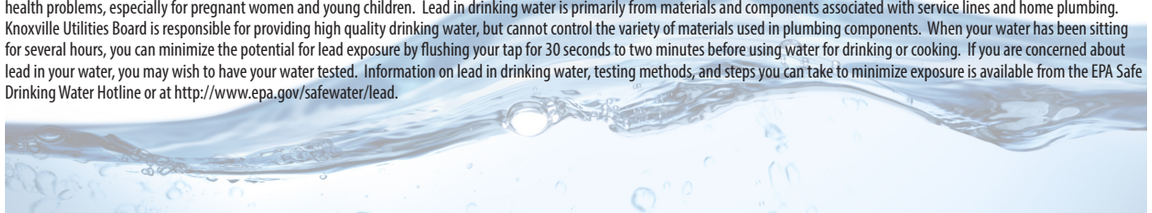
[1] KUB met the Treatment Technique requirement for Total Organic Carbon

[2] Compliance is determined by calculating a quarterly Locational Running Annual Average (LRAA) at all the required sampling sites. The range includes the highest and lowest results obtained from monitoring sites across our distribution system in 2014.

[3] Highest monthly percentage (July 2014, 5 of 224 samples taken).

[4] No Turbidity violations were incurred during 2014. We met the treatment technique for turbidity with 99% of monthly samples below the turbidity limit of 0.3 NTU. Turbidity is a measure of the cloudiness of the water. KUB monitors turbidity because it is a good indicator of the effectiveness of our filtration system.

[5] During the 2013 lead and copper testing, 1 of 65 households sampled contained concentrations that exceeded the action level. Lead: 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. Knoxville Utilities Board 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 two 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 EPA Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.



Additional Monitoring Data

Parameter	Average Level Detected
Alkalinity	70 ppm
Aluminum	28 ppb
Calcium	24 ppm
Chloride	15 ppm
Hardness	94 ppm
Iron	4 ppb
Manganese	1 ppb
pH	7.2 Standard Units
Sulfate	14 ppm
Total Dissolved Solids	110 ppm
Zinc	88 ppb

KUB's drinking water meets all existing standards for safe water. In addition to the required testing, KUB tests for over 80 additional parameters. Most of the substances tested for were not found in our water. These tables include the results for any parameter that was detectable.

Unregulated Monitoring Data

Parameter	Range or Level Detected
Chlorate	64 - 91 ppb (avg 73)
Chromium-6	0.044 - 0.061 ppb (avg 0.052)
Strontium	85 - 89 ppb (avg 87)
1,4-Dioxane	0.20 - 0.32 ppb (avg 0.26)
Androstene	0.00039 ppb
Testosterone	0.00053 ppb

EPA periodically requires utilities to monitor for some specific unregulated contaminants that do not have 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 to protect public health. For additional information, call the Safe Drinking Water Hotline at (800) 426-4791.

Terms and Definitions

Action Level (AL): the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Below Detection Limit (BDL): means that laboratory analysis indicates the contaminant is not present above the method's detection capability.

Contaminant: any physical, chemical, biological, or radiological substance or matter in water, which may or may not be harmful depending on the concentration.

Cross Connection: a physical connection between the public water system and another water supply or service that could contaminate the public water supply.

Maximum Contaminant Level (MCL): 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.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Residual Disinfectant Level (MRDL): the highest level of a disinfectant allowed in drinking water. There is convincing evidence that adding a disinfectant is necessary for the control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): below this level of a drinking water disinfectant, there is no known or expected risk to health. MRDLGs do not reflect the benefits of using disinfectants to control microbial contaminants.

Nephelometric Turbidity Unit (NTU): a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Picocuries per liter (pCi/l): a measure of the radioactivity in water.

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

Note: To make the following common scientific measures of substances in water easier to understand, we have related them to examples.

Parts per million (ppm) or milligrams per liter (mg/l) One part per million is equivalent to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or micrograms per liter (ug/l) One part per billion corresponds to one minute in 2,000 years or a single penny in $10,000,000.

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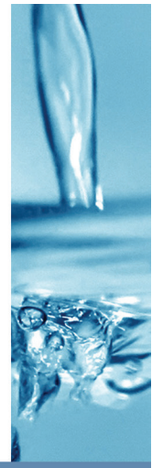
75th ANNIVERSARY 1939-2014 KUB

WATER QUALITY REPORT 2014



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