

Knoxville Water Works
City of Knoxville and Surrounding Rural Areas
2023 Report to Consumers on Water Quality

This report explains the quality of drinking water provided by Knoxville Water Works. Included is a listing of results from water quality tests as well as an explanation of where our water comes from and tips on how to interpret the data. We're proud to share our results with you. Please read them carefully.

Last year and in years past, your tap water met all U.S. Environmental Protection Agency (EPA) and Iowa Department of Natural Resources (IDNR) drinking water health standards. The Knoxville Water Works vigilantly safeguards its water supply and once again we are proud to report that our system has not violated a maximum contaminant level or any other water quality standard.

Source Water Report

The Knoxville Water Works obtains water from one or more groundwater aquifers. Every aquifer has a degree of susceptibility to contamination because of the characteristics of the aquifer, overlying materials, and human activity. Susceptibility to contamination generally increases with shallower aquifers, increasing permeability of the aquifer and overlying material, nearby development or agricultural activity, and abandoned or poorly maintained wells. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources, and is available from the Knoxville Water Works.

<u>Aquifer Name</u>	<u>Susceptibility</u>
Cambrian-Ordovician	insignificant

Water is pumped from the ground through our three wells. The wells are approximately 2400 feet deep. The wells are located at our treatment plant and also north of Knoxville. This untreated water is then transmitted to our water treatment facilities through a network of underground pipes.

How to Read The Water Quality Table

The results of tests performed in 2023 or the most recent testing available are presented in the table. Terms used in the Water Quality Table and in other parts of this report are defined here.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCL's 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 risk to health. MCLGs allow for a margin of safety.

Detected Level: The highest level detected of a contaminant for comparison against the acceptance levels for each parameter. These levels could be the highest single measurement, or an average of values depending on the contaminant.

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

Additional Health Information

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 Environmental Protection Agency's 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 animal or human activity. Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) 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.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- (D) 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.
- (E) 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 Knoxville Water Works 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 or at <http://www.epa.gov/safewater/lead>.

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).

We encourage public interest and participation in our community's decisions affecting drinking water and any other issues. Regular meetings occur on the 2nd Tuesday of every month at the Water Works office at 5:30 pm. The public is welcome.

For more information, call Brian Bailey with Knoxville Water Works at (641) 828-0557

2023 WATER QUALITY REPORT FOR KNOXVILLE WATER WORKS

This report contains important information regarding the water quality in our water system. The source of our water is groundwater. Our water quality testing shows the following results:

CONTAMINANT	MCL - (MCLG)	Compliance		Date	Violation Yes/No	Source
		Type	Value & (Range)			
Lead (ppb)	AL=15 (0)	90th	8.90 (ND-13)	2022	No	Corrosion of household plumbing systems; erosion of natural deposits
Copper (ppm)	AL=1.3 (1.3)	90 th	0.0787 (0.0068-0.108)	2022	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
950 - DISTRIBUTION SYSTEM						
Chlorine (ppm)	MRDL=4.0 (MRDLG=4.0)	RAA	3.6 (ND – 5)	9/30/2023	No	Water additive used to control microbes
Nitrite [as N] (ppm)	1 (1)	SGL	0.310 (ND – 0.310)	2022	No	Runoff From fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
01 - FINISHED WATER AFTER TREATMENT						
Gross Alpha, inc (pCi/L)	15 (0)	SGL	2.14	07/12/2023	No	Erosion of natural deposits
Barium (ppm)	2 (2)	SGL	0.0139	01/04/2022	No	Discharge of drilling wasters; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4 (4)	SGL	1.3	01/04/2022	No	Water additive which promotes strong teeth; Erosion of natural deposits' Discharge from fertilizer and aluminum factories
Selenium (ppb)	50 (50)	SGL	1.20	01/04/2022	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
Sodium (ppm)	N/A (N/A)	SGL	154	01/04/2022	No	Erosion of natural deposits; Added to water during treatment process

Note: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

DEFINITIONS

- 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.
- ppb -- parts per billion.
- ppm -- parts per million.

- pCi/L – picocuries per liter
- N/A – Not applicable
- ND -- Not detected
- RAA – Running Annual Average
- LRAA – Locational Running Annual Average
- IDSE – Initial Distribution System Evaluation
- Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
- Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Maximum Residual Disinfectant Level Goal (MRDLG) – The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- SGL – Single Sample Result
- TCR – Total Coliform Rule

GENERAL INFORMATION

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SOURCE WATER ASSESSMENT INFORMATION

CONTACT INFORMATION

For questions regarding this information or how you can get involved in decisions regarding the water system, please contact KNOXVILLE WATER WORKS at 641-828-0557.

