

LENOIR CITY UTILITIES BOARD WATER QUALITY REPORT 2017

Is my drinking water safe?

Yes, our water meets all of EPA's health standards. We have conducted numerous tests for over 80 contaminants that may be in drinking water. As you will see in the chart, we only detected 11 of these contaminants; all were within an acceptable level as determined by the results in the chart.

What is the source of my water?

Your water, which is surface and/or ground water, comes from the Watts Bar Embayment on the Tennessee River and the Allen Fine Spring. Our goal is to protect our water from contaminants and we are working 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 Lenoir City Utilities Water Plant #1 source is rated as reasonably susceptible to potential contamination. The Lenoir City Utilities Water Plant #2 source is rated as moderately susceptible to potential contamination.

An explanation of Tennessee's Source Water Assessment Program, Source Water Assessment summaries, susceptibility scorings, and the overall TDEC report to the Environmental Protection Agency (EPA) can be viewed online at <https://tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html> or you may contact the Water System to obtain copies of specific assessments.

Why are there contaminants in my water?

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).

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:

- 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 be naturally-occurring or result from urban 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, urban storm water 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 storm water runoff, and septic systems.
- 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 and the Tennessee Department of Environment and Conservation prescribe 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.

How can I get involved?

Our Water Board meets on the third Monday of each month at 4:00 p.m. at City Hall located at 7698 Creekwood Park Blvd. Please feel free to participate in these meetings.

Is our water system meeting other rules that govern our operations?

The State and EPA require us to test and report on our water on a regular basis to ensure its safety. We have met all of these requirements. Results of unregulated contaminant analysis are available upon request. We want you to know that we pay attention to all the rules.

Do I need to take special precautions?

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 under gone 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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Lead in 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. LCUB 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>

Pharmaceuticals in Drinking Water

Flushing unused or expired medicines can be harmful to your drinking water. Learn more about disposing of unused medicines at <https://www.tn.gov/behavioral-health/substance-abuse-services/prevention/prevention/find-a-prescription-drug-take-back-box.html>

Water system security

Following the events of September 2001, we realize that our customers are concerned about the security of their drinking water. We urge the public to report any suspicious activities at any utility facilities, including treatment plants, tanks, fire hydrants, pumping stations, etc. to (865) 988-0736.

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

For more information about your drinking water, please call Tim McKelvey at (865) 988-0736.

First Utility District Water Quality Data

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform (% positive Samples) ¹	No	1	Nd-1%	6/2017	% pos	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Turbidity ⁴	No	0.59	0.03-0.19	2017	NTU	n/a	TT-95% < 0.3	Soil runoff
Asbestos	No	BDL	n/a	2011	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
Copper ²	No	90th percent 0.0333	BDL-0.09	2016	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	No	0.442	0.263-0.541	2017	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead ²	No	90th percent 0.0005	BDL-.05	2016	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
Sodium ⁴	No	8.99	n/a	2017	ppm	n/a5	n/a	Erosion of natural deposits; used in water treatment
Total Trihalomethanes TTHM ³	No	LRAA 57	29-73	2017	ppb	n/a	80 RAA	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	LRAA 31	17-41	2017	ppb	n/a	60 RAA	By-product of drinking water disinfection
Sulfate ⁴	No	10.0	n/a	2012	ppm	n/a5	n/a	
Total Organic Carbon (TOC) ⁴	No	1.47	1.37-1.58	2017	ppm	TT	TT	Naturally present in the environment
Gross Alpha	No	1.41	<1.3-3.9	12/2016	pCi/l	0	15pCi/l	Erosion of natural deposits
Radium 226	No	-0.116	<0.2-2.6	12/2016	pCi/l	0	5pCi/l	Erosion of natural deposits
Chlorine ⁷	No	1.11	0.2-2.2	2017	ppm	4	4	Water additive used to control microbes
Nitrate	No	0.383	0.383	2017	ppm	10	10	Runoff from fertilizer use

¹ Not a violation of the MCL for total coliform, the presence of total coliform were found in only 1% of samples in the month of June. Repeat sampling was negative for total coliform. ² During the most recent round of Lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level. 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. First Utility District 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> ³ Compliance is determined by a running annual average (RAA) of all sample results obtained quarterly at required sampling sites. Current monitoring meets requirements. 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. ⁴ The treatment technique for Total Organic Carbon was met for 2017. ⁵ Not applicable - sulfate is a secondary standard, and sodium has no MCL. ⁶ The treatment technique for Turbidity was met in 100% of samples for 2017. Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system. ⁷ First Utility is required to monitor its source water for the presence of cryptosporidium to meet requirements for its removal. Monitoring of the source water has revealed 3 oocysts out of 24 samples. Cryptosporidium is a microbial parasite which is found in surface waters throughout the U.S. Although Cryptosporidium can be removed by filtration, the most commonly used filtration methods cannot Guarantee 100 percent removal. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immune-compromised people are encouraged to consult a doctor regarding appropriate precautions to take to prevent infection. For more information on Cryptosporidium, contact the Safe Drinking Water Hotline (800-436-4791).

Parameter	Range/ level detected
Strontium	72-90 ppb (avg. 80)
Hexavalent Chromium	0.05-0.11 ppb (avg. 0.08)
Chlorate	66-300 ppb (avg. 166)
1,4 Dioxane	0.11-0.29 ppb (0.20)
Vanadium	0-0.3 ppb (0.075)

Unregulated contaminants are those that EPA has not 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. **For additional information call the Safe Drinking Water Hotline at (800) 426-4791**

Lenoir City Utilities Board Water Plant #1 Water Quality Data

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	No	ND	ND	25 samples per month		0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Turbidity ¹	No	0.12	0.02 - 0.12	Continuous	NTU	n/a	TT	Soil runoff
Asbestos	No	<0.16		2012	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits.
Copper ²	No	90% Tile = 0.06	<0.010 To 0.411	2016	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	No	Avg. 0.465	0.39 -0.60	Quarterly 2017	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead ²	No	90% Tile = 1.5	<0.005 To 7.4	2016	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Sodium	No	7.31		2017	ppm	n/a	n/a	Erosion of natural deposits; used in water treatment
TTHM ³ [Total trihalomethanes]	No	LRAA 45.90	BDL – 72.10	Quarterly 2017	ppb	n/a	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	No	LRAA 28.68	BDL – 38.70	Quarterly 2017	ppb	n/a	60	By-product of drinking water disinfection.
Total Organic Carbon ⁴	No	1.28	1.1 – 1.49	Quarterly 2017	ppm	TT	TT	Naturally present in the environment
Gross Alpha	No	BDL	N/A	2014	pCi/l	0	15pCi/l	Soil runoff
Nitrate	No	BDL	N/A	2017	ppm	10	10	Runoff from fertilizer use
Chlorine	No	Avg. 1.98	1.7 – 2.2	Daily	ppm	4	4	Water additive used to control microbes.

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. We met the treatment technique for turbidity with 100% of monthly samples below the turbidity limit of 0.3 NTU.
2. During the most recent round of lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level. 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. Lenoir City 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 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>
3. Compliance is determined by a running annual average (RAA) of all sample results obtained quarterly at required sampling sites. Current monitoring meets requirements. 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.
4. We met the Treatment Technique requirement for Total Organic Carbon in 2017.
5. LCUB is required to monitor its source water for the presence of cryptosporidium. Monitoring of the source water has revealed 0 oocysts.

Unregulated Monitoring Data

Parameter	Range or Level Detected
Chlorate	0 – 490 ppb (31 ppb)
1, 4 - Dioxane	0 – 0.22 ppb (0.087 ppb)
Strontium	30 – 95 ppb (avg. 47.5 ppb)
Vanadium	0 – 0.47 ppb (avg. 0.29 ppb)
Chromium	0 – 0.42 ppb (avg. 0.145 ppb)
Hexavalent Chromium	0 – 0.31 ppb (avg. 0.1535 ppb)
Bromodichloromethane	0.00369 ppm
Chlorodibromomethane	0.0013 ppm
Chloroform	0.00636 ppm

Unregulated contaminants are those for which EPA has not 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. For additional information call the Safe Drinking Water Hotline at (800) 426-4791.

Lenoir City Utilities Board Water Plant #2 Water Quality Data

Contaminant	Violation Yes/No	Level Detected	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	No	ND	ND	25 samples per month		0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Turbidity ¹	No	0.14	0.02 - 0.14	Continuous	NTU	n/a	TT	Soil runoff.
Copper ²	No	90% Tile = 0.06	<0.010 To 0.411	2016	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Fluoride	No	Avg. 0.509	0.44 – 0.61	Quarterly 2017	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Lead ²	No	90% Tile = 1.5	<0.005 To 7.4	2016	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits.
Sodium	No	2.43		2017	ppm	n/a	n/a	Erosion of natural deposits; used in water treatment.
TTHM ³ [Total trihalomethanes]	No	LRAA 45.90	BDL – 72.10	Quarterly 2017	ppb	n/a	80	By-product of drinking water chlorination.
Haloacetic Acids (HAA5)	No	LRAA 28.68	BDL – 38.70	Quarterly 2017	ppb	n/a	60	By-product of drinking water disinfection.
Gross Alpha	No	BDL	N/A	2014	pCi/l	0	Reg. Limit = 15	Soil runoff.
Nitrate	No	1.42	1.42	2017	ppm	10	10	Runoff from fertilizer use
Chlorine	No	Avg. 1.96	1.7 – 2.2	Daily	ppm	4	4	Water additive used to control microbes.
Asbestos	No	<0.16		2012	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. We met the treatment technique for turbidity with 100% of monthly samples below the turbidity limit of 0.3 NTU.
2. During the most recent round of Lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level. 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. Lenoir City 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 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>
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Water Quality Data

What does this chart mean?

- **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.
- **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. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.
- **MRDL**: Maximum Residual Disinfectant Level or MRDL: 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. 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.
- **AL** - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present.
- **Parts per million (ppm) or Milligrams per liter (mg/l)** – explained as a relation to time and money as one part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion (ppb) or Micrograms per liter** - explained as a relation to time and money as one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Million Fibers per Liter (MFL)** - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **TT** - Treatment Technique or a required process intended to reduce the level of a contaminant in drinking water.
- **pCi/l** - Radiological units in picocuries per liter.
- **BDL** - Below Detection Limit.