Important Health Information

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health-care provider.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

Substances That Could Be in Water

In order to ensure that tap water is safe to drink, U.S. 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. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;
- Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban storm-water runoff, and septic systems;
- Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.
**Cryptosporidium in Drinking Water**

*Cryptosporidium* is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Monitoring of our source water indicated the presence of *cryptosporidium* in 1 out of 9 samples tested.

Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

**Source Water Assessment**

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. The Springfield Water System is rated as reasonably susceptible to potential contamination. To ensure safe drinking water, all public water systems treat and routinely test their water.

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 [www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html](http://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html), or you can contact the City of Springfield Water and Wastewater Department at (615) 382-1600 or call TDEC EAC at (888) 891-8332 ((888) 891-TDEC).

**Lead in Home Plumbing**

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. We are responsible for providing high-quality drinking water, but we 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 (800) 426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

**Questions?**

For more information about this report, or for any questions relating to your drinking water, please call Bryan Suter at (615) 696-2586.
Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

How chlorination works:

- **Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.
- **Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.
- **Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.
- **Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

Where Does My Water Come From?

Your water, which is surface water, comes from the Red River. Our goal is to protect our water from contaminants, and we are working with the State to determine the vulnerability of our water supply to contamination.

How Can I Get Involved?

Our Board of Mayor and Alderman meets on the third Tuesday night of each month at 6:00 p.m. at City Hall, which is located at 405 North Main Street. Please feel free to participate in these meetings.
Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. And, the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### REGULATED SUBSTANCES

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrazine (ppb)</td>
<td>2018</td>
<td>3</td>
<td>3</td>
<td>0.3</td>
<td>BDL–0.3</td>
<td>No</td>
<td>Runoff from herbicide used on row crops</td>
</tr>
<tr>
<td>Chlorine (ppm)</td>
<td>2018</td>
<td>[4]</td>
<td>[4]</td>
<td>3.0</td>
<td>1.1–3.0</td>
<td>No</td>
<td>Water additive used to control microbes</td>
</tr>
<tr>
<td>Fluoride (ppm)</td>
<td>2018</td>
<td>4</td>
<td>4</td>
<td>0.58</td>
<td>0.26–0.98</td>
<td>No</td>
<td>Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories</td>
</tr>
<tr>
<td>Haloacetic Acids [HAA] (ppb)</td>
<td>2018</td>
<td>60</td>
<td>NA</td>
<td>45</td>
<td>12–70</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Nitrate (ppm)</td>
<td>2018</td>
<td>10</td>
<td>10</td>
<td>5.6</td>
<td>4.2–5.6</td>
<td>No</td>
<td>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits</td>
</tr>
<tr>
<td>TTHMs [Total Trihalomethanes] (ppb)</td>
<td>2018</td>
<td>80</td>
<td>NA</td>
<td>41</td>
<td>4–71</td>
<td>No</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Total Coliform Bacteria (% positive samples)</td>
<td>2018</td>
<td>TT</td>
<td>NA</td>
<td>5%</td>
<td>NA</td>
<td>No</td>
<td>Naturally present in the environment</td>
</tr>
<tr>
<td>Total Organic Carbon [% removal]</td>
<td>2018</td>
<td>TT</td>
<td>NA</td>
<td>32</td>
<td>0–32</td>
<td>No</td>
<td>Naturally present in the environment</td>
</tr>
<tr>
<td>Turbidity [NTU]</td>
<td>2018</td>
<td>TT</td>
<td>NA</td>
<td>0.17</td>
<td>0.02–0.17</td>
<td>No</td>
<td>Soil runoff</td>
</tr>
<tr>
<td>Turbidity (Lowest monthly percent of samples meeting limit)</td>
<td>2018</td>
<td>TT = 95% of samples meet the limit</td>
<td>NA</td>
<td>100</td>
<td>NA</td>
<td>No</td>
<td>Soil runoff</td>
</tr>
</tbody>
</table>

### Tap Water Samples Collected for Copper and Lead Analyses from Sample Sites throughout the Community

<table>
<thead>
<tr>
<th>SUBSTANCE [UNIT OF MEASURE]</th>
<th>YEAR SAMPLED</th>
<th>AL</th>
<th>MCLG</th>
<th>AMOUNT DETECTED [90TH %ILE]</th>
<th>SITES ABOVE AL/TOTAL SITES</th>
<th>VIOLATION</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper (ppm)</td>
<td>2017</td>
<td>1.3</td>
<td>1.3</td>
<td>0.044</td>
<td>0/30</td>
<td>No</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
</tr>
<tr>
<td>Lead (ppb)</td>
<td>2017</td>
<td>15</td>
<td>0</td>
<td>1.3</td>
<td>0/30</td>
<td>No</td>
<td>Lead service lines; Corrosion of household plumbing systems, including fittings and fixtures; Erosion of natural deposits</td>
</tr>
</tbody>
</table>

### UNREGULATED SUBSTANCES

<table>
<thead>
<tr>
<th>SUBSTANCE [UNIT OF MEASURE]</th>
<th>YEAR SAMPLED</th>
<th>AMOUNT DETECTED</th>
<th>RANGE LOW-HIGH</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromodichloromethane (ppb)</td>
<td>2018</td>
<td>0.7</td>
<td>NA</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Chlorodibromomethane (ppb)</td>
<td>2018</td>
<td>3.7</td>
<td>NA</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Chloroform (ppb)</td>
<td>2018</td>
<td>3.7</td>
<td>NA</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>2018</td>
<td>2.2</td>
<td>NA</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

1. We are required to have a percent removal of 15%. We met the treatment technique for Total Organic Carbon in 2018.
2. Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.
3. Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of the monitoring unregulated contaminants is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations is warranted. For additional information, call the Safe Drinking Hotline at (800) 426-4791.
Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

BDL (Below detection limit): Indicates that the substance was not found by laboratory analysis.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): 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): 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): 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.

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.

NA: Not applicable.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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