This report is a snapshot of the quality of the water that we provided to our customers last year. The City of Lawrence’s water quality consistently meets or exceeds all Federal and State standards for safe drinking water. Included are the details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. For more information please contact, Aurora Shields at 785-832-7817.

Sources of Drinking Water
The City of Lawrence has two major surface water sources: the Kansas River and Clinton Lake. Occasionally, water is also drawn from 6 Ground Water Wells. The Kansas Department of Health and Environment has evaluated these sources of water and their report can be found at: http://www.kdheks.gov/nps/swap/SWreports.html

Treatment of Source Water
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. The City of Lawrence treats the source water according to EPA regulations by removing contaminants and disinfecting to protect you against microbial contaminants. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

Water Contaminants
The source of drinking water includes 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 sources water before we treat it include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, 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.
- **Organic contaminants**, which include synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or the result of mining activity.

Our water system is required to test a minimum of 90 samples per month in accordance with the Total Coliform Rule for microbiological contaminants. Coliform bacteria are usually harmless, but their presence in water can be an indicator of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this is exceeded, the water supplier must notify the public.

For Customers with Special Health Concerns
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). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those 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).

**Taste and Odor:** Occasionally Lawrence’s source water may have an effect on the smell, taste, or appearance of your drinking water. None of the contaminants that could affect your drinking water are:

- A funny taste can come from disinfectant that is added to the water to kill germs.
- A rotten-egg odor in some groundwater is caused by a nontoxic (in small amounts), smelly chemical – hydrogen sulfide – dissolved in the water.
- As algae, fungi, and bacteria grow in surface water sources, they give off nontoxic, smelly chemicals that can cause unpleasant tastes in water.

You can find additional information about your drinking water at: http://lawrenceks.org/utilities/annual_report

**Terms & Abbreviations**

- **Maximum Contaminant Level Goal (MCLG):** “The Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL):** The “Maximum Allowed” MCL is 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 technologies.
- **Secondary Maximum Contaminant Level (SMCL):** Recommended level for a contaminant that is not regulated and has no MCL.
- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

**Water Quality Data:** The following tables list all of the drinking water contaminants which were detected during the 2016 calendar year. The presence of these contaminants does not necessarily indicate the water poses a health risk. Other contaminants were tested but were not detected. Unless noted, the data presented in this table is from the testing done January 1 - December 31, 2016. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year; therefore some of the data, though representative of the water quality, is more than one year old.
In the months of March and April 1.08% samples returned as positive. No more than 5% positives of all samples in a calendar month. Naturally present in the environment.

Regulated Contaminants | Collection Date | Your Highest Value (low/high) | Unit | MCL | MCLG | Typical Source
--- | --- | --- | --- | --- | --- | ---
ASBESTOS | 8/27/2013 | ND | NA | MFL | 7 | 7 | Decay of asbestos main
ARSENIC | 2/16/2016 | 2.1 | ND – 2.1 | ppb | 10 | 0 | Erosion of natural deposits
ATRAZINE | 6/2/2016 | 0.9 | ND – 0.9 | ppb | 3 | 3 | Runoff from herbicide used on row crops
BARIUM | 2/16/2016 | 0.140 | 0.020 – 0.140 | ppm | 2 | 2 | Industrial discharge from mining and metal refineries.
CHROMIUM | 5/4/2016 | 3.0 | ND – 3.0 | ppb | 100 | 100 | Erosion of natural deposits or steel and pulp
FLUORIDE | 2/16/2016 | 0.63 | ND – 0.63 | ppm | 4 | 4 | Erosion of natural deposits; water additive which promotes strong teeth
NITRATE | 5/4/2016 | 0.98 | 0.32 – 0.98 | ppm | 10 | 10 | Runoff from fertilizer use. Naturally present in the environment
TURBIDITY | 2/29/2016 | 0.354 | 0.025 – 0.354 | NTU | 1 | Soil runoff
CHLORAMINE | 2016 | 3.4 (RAA) | 3.3 – 3.6 | ppm | 4 (MRDL) | 4 (MRDLG) | Additive to control microbes
TOTAL ORGANIC CARBON | 2016 | 3.5 | 2.3 – 3.5 | ppm | TT | NA | Naturally present in the environment

Disinfection Byproducts

- **TOTAL HALOACETIC ACIDS**: 2016, 30.6 ppm, 13.2 – 45.6 ppm
- **TOTAL THTRIHALOMETHANES**: 2016, 57.1 ppm, 33.6 – 94.0 ppm

Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Radiological Contaminants

- **RADON 222**: 9/9/2014, 1.60 ppm, 0.80 – 2.20 ppm
- **GROSS ALPHA & BETA**: 9/9/2014, 1.60 ppm, 0.70 – 1.60 ppm

**Source Water Monitoring**

- **CRYPTOSPORIDIUM**: 11/18/2016, 10.0 S.U., 10.0 – 110.0 S.U.
- **EPIRAVIR**: 11/18/2016, 0.67 ppm, 0.01 – 0.67 ppm
- **ZONASPERSE**: 11/18/2016, 0.03 ppm, 0.03 – 0.03 ppm

**Unregulated Parameters**

- **ALCALINITY, TOTAL as CaCO3**: 300 ppm, 56 – 138 ppm
- **BROMIDE**: 0.05 ppm, 0.01 – 0.06 ppm
- **CALCIUM**: 200 ppm, 34 – 53 ppm
- **CHLORATE (8/14/2013)**: NA ppm, 99 – 1330 ppm
- **CONDUCTIVITY @ 25 °C**: 1500 ppm, 350 – 800 μS/cm
- **HARDNESS, TOTAL as CaCO3**: 400 ppm, 106 – 196 ppm
- **MAGNESIUM**: 150 ppm, 0.3 – 18 ppm
- **NICKEL**: 0.1 ppm, 0.002 ppm
- **ORTHOPHOSPHATE**: NA ppm, 0.67 ppm
- **PHOSPHORUS, TOTAL**: 5.55 ppm, 0.55 ppm

**Constituents Having Secondary MCL’s**

- **ALUMINUM**: 2/16/2016, 0.08 ppm, 0.003 – 0.03 ppm
- **CHLORIDE**: 11/18/2016, 160 ppm, 22 – 110 ppm
- **Hydrogen ion (pH)**: 11/18/2016, 10.0 ppm, 8.0 – 10.0 ppm
- **SULFATE**: 11/18/2016, 120 ppm, 21 – 120 ppm
- **Total Dissolved Solids (TDS)**: 11/18/2016, 430 ppm, 190 – 430 ppm

**Microbiological**

- **Total Coliform bacteria**: 0%

**Testing Results for: City of Lawrence**

(During the 2016 calendar year, we had no violations of drinking water regulations)
<table>
<thead>
<tr>
<th>UNREGULATED PARAMETERS</th>
<th>FEDERAL LEVEL RECOMMENDED</th>
<th>Your Highest Value</th>
<th>Range (low/high)</th>
<th>Unit</th>
<th>TYPICAL SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTASSIUM</td>
<td>100</td>
<td>11</td>
<td>3.6 – 11</td>
<td>ppm</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>SILICA</td>
<td>50</td>
<td>13</td>
<td>1.3 – 13</td>
<td>ppm</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>SODIUM</td>
<td>100</td>
<td>85</td>
<td>14 - 85</td>
<td>ppm</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>STRONTIUM (2/16/2016)</td>
<td>NA</td>
<td>350</td>
<td>200 - 350</td>
<td>ppb</td>
<td>Erosion of natural deposits. Industrial use in the faceplate glass of cathode-ray tube televisions to block x-ray emissions</td>
</tr>
<tr>
<td>VANADIUM (6/17/2016)</td>
<td>NA</td>
<td>6.7</td>
<td>ND – 6.7</td>
<td>ppb</td>
<td>Erosion of natural deposits. Industrial use as vanadium pentoxide which is a chemical intermediate and a catalyst</td>
</tr>
<tr>
<td>HEXAVALENT CHROMIUM (5/4/2016)</td>
<td>NA</td>
<td>2.90</td>
<td>0.07 – 2.90</td>
<td>ppb</td>
<td>Erosion of natural deposits. Used to make steel and alloys, chrome plating, dyes, leather tanning and wood preservation</td>
</tr>
<tr>
<td>MOLYBDENUM (6/17/2016)</td>
<td>NA</td>
<td>4.3</td>
<td>ND – 4.3</td>
<td>ppb</td>
<td>Erosion of natural deposits. Industrial use from molybdenum bromide used as a chemical reagent</td>
</tr>
</tbody>
</table>