**Water Source Information**

Is our water system meeting rules that govern our operations?

In order to ensure that tap water is safe to drink, the Missouri Department of Natural Resources (MDNR) and the Environmental Protection Agency (EPA) prescribe regulations which limit the amount of certain contaminants in drinking water provided by public water systems. The MDNR regulates the water system at University of Missouri (MU) and requires MU to conduct water testing and water treatment as necessary to ensure its safety. The drinking water at MU meets or exceeds all standards of quality set by the EPA and MDNR. MDNR has assigned the identification #MO-3069001 to the MU system for purposes of tracking test results. In 2017, MU tested for a variety of contaminants. Of the hundreds of tests conducted, all contaminants were either non-detectable or within acceptable limits set by the MDNR. The detectable results of tested regulated contaminants are listed below. This report lists only those regulated substances found in measurable quantities. Not listed are contaminants for which none were detected when analyzed. There were no violations of state requirements or standards. (Missouri Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.)

The MDNR conducted a source water assessment to determine the susceptibility of MU’s water source to potential contaminants. This process involved the establishment of source water delineations for each well and then a contaminant inventory was performed within those delineated areas to assess potential threats to each source. The Source Water Inventory Project maps and information sheets provide a foundation upon which a more comprehensive source water protection plan can be developed.

**What is the source of my water?**

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it may dissolve naturally-occurring minerals, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

The source for drinking water at MU is groundwater. MU’s water is pumped from five deep water wells located on the campus. The average well depth is 1,370 feet below ground surface. Collectively, the wells are capable of drawing more than 5 million gallons per day of high quality groundwater from a Cambrian-Ordovician dolomite aquifer. An aquifer is an underground layer of earth gravel or porous rock that yields water. Dolomite is a magnesia-rich sedimentary rock resembling limestone.

**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. Information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 800-426-4791. According to MDNR, 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 gasoline 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.

**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 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.

Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available through the EPA Safe Drinking Water Hotline. 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
equipment associated with service lines and building plumbing. MU is responsible for providing high quality drinking water and limits the exposure to lead by approving only pipe conduit construction materials that meet minimum standards for lead content. If you are concerned about lead in your water when the water has been sitting for several hours, you may minimize the potential for exposure by flushing your tap for 1 to 2 minutes before using water for drinking or cooking. You may wish to have your water tested. Information on lead in drinking water, testing methods, and steps to take to minimize exposure is available from the EPA Safe Drinking Water Hotline or at https://www.epa.gov/ground-water-and-drinking-water.

**How might I become actively involved?**

If you have any further questions or comments regarding your water quality report that were monitored for, the initial analytical results, or the drinking water supply source, information can be obtained from the MU Environmental, Health and Safety (EHS) Department at 573-882-7018, or the MDNR at 1-800-361-4827. This report can also be found online at http://www.cf.missouri.edu/cf/sites/cf/files/pdf/ccr.pdf.

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**Water Analysis**

**Definitions/abbreviations**

Population: 35,000. This is the equivalent residential population served including non-bill paying customers.

90th percentile: For lead and copper testing, 10% of test results are above this level and 90% are below this level.

Mean: The average analytical results taken at a particular monitoring location during the previous four calendar quarters.

Highest: The highest detected level of all test results for a particular contaminant.

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, allows for a margin of safety.

PPB: Parts per billion. One billionth of a gram.

Ppm: Parts per million or micrograms per liter.

**Ranges**

- Erosion of natural deposits.
- Corrosion of building plumbing systems.
- Deposits.
- Runoff from fertilizer use; septic tank leaching, sewage; erosion of natural deposits.
- Corrosion of building plumbing systems.

**Typical Sources**

**Contaminants**

<table>
<thead>
<tr>
<th>Inorganic Contaminants</th>
<th>UNITS</th>
<th>MCL</th>
<th>MCLG</th>
<th>MEAN</th>
<th>RANGE</th>
<th>VIOLATION</th>
</tr>
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<tbody>
<tr>
<td>Barium *</td>
<td>ppm</td>
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<td>2000</td>
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<td>3.07</td>
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<tr>
<td>Nitrate – Nitrite</td>
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<td>10000</td>
<td>10000</td>
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<td>0 – 17</td>
<td>No</td>
</tr>
<tr>
<td>Copper</td>
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<td>0.15</td>
<td>0.0121 – 0.279</td>
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<tr>
<td>Cadmium(2+)</td>
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<td>3.73</td>
<td>0 – 5.78</td>
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<tr>
<td>Chloride (as Cl–)</td>
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<td>Gross Alpha Particles</td>
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<td>n/a</td>
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<table>
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<th>MCLG</th>
<th>MEAN</th>
<th>RANGE</th>
<th>VIOLATION</th>
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<td>0.15</td>
<td>0.0121 – 0.279</td>
<td>No</td>
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<tr>
<td>Lead</td>
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<td>3.73</td>
<td>0 – 5.78</td>
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</tr>
</tbody>
</table>

**UNREGULATED CONTAMINANTS**

- Hexavalent Chromium* 0.29 ppm
- Strontium* 984 ppm

**Notes:**
- MCL = Maximum Contaminant Level
- MCLG = Maximum Contaminant Level Goal
- Range = The lowest and highest levels found during a testing period. If only one sample was taken, then this number equals the highest value.
- ppm = parts per million
- ppb = parts per billion
- † = Does not apply
- * = The MDNR has reduced monitoring requirements for certain contaminants to less than once per year because the low concentrations of these contaminants are not expected to vary significantly from year to year. Records with a sample more than one year old (*) are still considered representative.

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Report valid until June 30, 2019