Consumer Confidence Reports
Challenges to Providing Safe Drinking Water in the Midwest
September 22, 2017
The Multi-Barrier Approach to Protecting Public Health

Construct and maintain well-designed storage and distribution systems

Select and protect a quality water source

Train staff and provide adequate resources

Note: Pumps and valves are located at a variety of locations throughout the distribution system.
...monitor water quality and inform customers
Consumer Confidence Reports (CCR)

- Each community required to make available to customers at least once annually
- Minimum information required
  - Source of water
  - Definitions
  - Detected contaminants table with health concerns
  - Violations
  - Other mandatory language, e.g., nitrate and lead
- Flexibility on format but must be understandable
- Along with public notifications, addresses public right-to-know provisions of the SDWA
  - Transparency
  - Accountability
2016 WATER QUALITY REPORT FOR CAMBRIDGE WATER SUPPLY

This report contains important information regarding the water quality in our water system. The source of our water is groundwater.

Our water quality testing showed the following results:

<table>
<thead>
<tr>
<th>CONTAMINANT</th>
<th>MCL (or MCLG)</th>
<th>Compliance</th>
<th>Date</th>
<th>Violation</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead (24h)</td>
<td>15 (15)</td>
<td>LRAA</td>
<td>2016-03</td>
<td>03/26/2016</td>
<td>No</td>
</tr>
<tr>
<td>Fluoride (24h)</td>
<td>1.0</td>
<td>LRAA</td>
<td>2016-03</td>
<td>03/26/2016</td>
<td>No</td>
</tr>
<tr>
<td>Lead (pH)</td>
<td>0.05 (0.0)</td>
<td>0.01</td>
<td>2016-03</td>
<td>03/26/2016</td>
<td>No</td>
</tr>
<tr>
<td>Copper (pH)</td>
<td>1.3</td>
<td>0.2</td>
<td>2016-03</td>
<td>03/26/2016</td>
<td>No</td>
</tr>
<tr>
<td>Sulfate</td>
<td>160</td>
<td>200</td>
<td>2016-03</td>
<td>03/26/2016</td>
<td>No</td>
</tr>
</tbody>
</table>
| Cyanides | 0.1 | 0.1 | 2016-03 | 03/26/2016 | No | Water additive used to control algae.

Cambridge Treatment:

| Chlorine | MCL (or MCLG) | RAA | 0.01 (0.13 - 0.7) | 03/26/2016 | No | Water additive used to control algae. |
| Zn | 1 | 1 | 03/26/2016 | No | Compliant with household plumbing systems; excess of treated water. |
| BI-AT-PLANT-TREATMENT | | | | | | |
| Fluoride (24h) | 1.0 | 1.0 | 03/26/2016 | No | Water additive used to control algae. |
| Calcium (pH) | 10 | 10 | 03/26/2016 | No | Compliant with household plumbing systems; excess of treated water. |
| Sulphate | 160 | 200 | 03/26/2016 | No | Compliant with household plumbing systems; excess of natural deposits; Lead contamination potential. |

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.
- **pH** - parts per billion.
- **ppm** - parts per million.
- **PCDL** - parts per deciliter.
- **NAA** - Not applicable.
- **NE** - Not detected.
- **LAA** - Limiting Aesthetic Average.
- **Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.

GENERAL 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).

Some supplies 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 susceptible to contaminants. These people should seek advice about drinking water from their health care providers. EPA/NIH publication or appropriate means is less than the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791). 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. CAMBRIDGE WATER SUPPLY 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 at least 30 seconds 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 is in drinking water, testing methods and steps you can take in maximizing exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/oddr/lead.

SOURCE WATER ASSESSMENT INFORMATION

This water supply obtains water from the sand and gravel of the Alluvial aquifer. The Alluvial aquifer was determined to be highly vulnerable to contamination because the characteristics of the aquifer and overlying materials provide little protection from contamination at the land surface. The Alluvial well is highly susceptible to surface contaminants such as leaking intergroup drainage ditches, septic tanks, and surface water runoff. A detailed evaluation of the source water was conducted by the Iowa Department of Natural Resources, and is available from the Water Operator at 515-446-8657.

CONTACT INFORMATION

For questions regarding this information or how you can get involved in decisions regarding the water system, please contact CAMBRIDGE WATER SUPPLY at 515-446-0421.
### 2016 Water Quality Report for Some Water Supply

This report contains important information regarding the water quality in our water system. The source of our water is groundwater. All of the water is purchased, purchased water comes from CENTRAL IA WATER ASSN (WAVERLY). Our water quality testing shows the following results:

#### Table: Water Contaminants

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>MCL - (MCLG)</th>
<th>Compliance</th>
<th>Date</th>
<th>Violation</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Chlornohenes</td>
<td>80 (N/A)</td>
<td>LRAA</td>
<td>29.60 (29 - 29)</td>
<td>09/30/2016</td>
<td>No</td>
</tr>
<tr>
<td>Total Haloacetic Acids</td>
<td>60 (N/A)</td>
<td>LRAA</td>
<td>12.60 (12 - 12)</td>
<td>09/30/2016</td>
<td>No</td>
</tr>
<tr>
<td>Copper (ppm)</td>
<td>AL=1.3 (1.3)</td>
<td>90th</td>
<td>0.0113 (ND--0.0144)</td>
<td>2014</td>
<td>No</td>
</tr>
<tr>
<td>Lead (ppm)</td>
<td>AL=15 (0)</td>
<td>90th</td>
<td>1.40 (ND - 2)</td>
<td>2014</td>
<td>No</td>
</tr>
</tbody>
</table>

**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.
Example 2 – IRUA CCR

<table>
<thead>
<tr>
<th>Substance Regulated at Customer Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead (ppb)</td>
</tr>
<tr>
<td>Atmax (50)</td>
</tr>
<tr>
<td>100 μg</td>
</tr>
<tr>
<td>1 sample exceeded AL</td>
</tr>
<tr>
<td>2016 NO</td>
</tr>
<tr>
<td>Corrosion of home plumbing, erosion of natural deposits</td>
</tr>
</tbody>
</table>

| Copper (ppm)                        |
| Atmax (1.0)                        |
| 10 μg                             |
| 0.05/0.01 (0.05/0.01)             |
| 2016 NO                            |
| Corrosion of home plumbing, erosion of natural deposits |

NOTE: The EPA requires monitoring of over 80 drinking water contaminants. Those listed above are the only contaminants detected in your drinking water. For a complete list, contact IRUA.

UNREGULATED CONTAMINANT MONITORING INFORMATION: The Environmental Protection Agency developed an unregulated contaminant monitoring program to better understand the existence of contaminants in the environment that are not regulated by the National primary Drinking Water Regulations. These are known or anticipated to occur at public water systems and may warrant regulations under the Safe Drinking Water Act. In 2014, our water sources were required to test for 21 unregulated contaminants. The unregulated contaminants found in our source waters are also included in this report. For more information, please contact Iowa Regional Utilities Association at (641) 792-7011.

Definitions

**Action Level (AL)** - The concentration of a contaminant that, if exceeded, triggers a treatment or other requirement that a water system must follow.

**Maximum Contaminant Level (MCL)** - The highest level of a contaminant 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.

**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.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - 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.

**N/A** - Not Applicable

**ND** - Not detected at testing limit

**ppb** - Parts of contaminant per billion parts of water; 1 ppb is equivalent to a single penny in ten million dollars

**ppm** - Parts of contaminant per million parts of water; 1 ppm is equivalent to a single penny in ten thousand dollars

**RAA** - Running Annual Average

**SGL** - Single Sample Result

TERRITORY AND WATER SOURCES
WHERE DOES OUR WATER COME FROM?

The City of Cedar Rapids obtains its drinking water supplies from shallow vertical and collector wells constructed in the sand and gravel deposits along the Cedar River. Those deposits form an underground water-bearing layer called an alluvial aquifer. Because of continuous pumping of the City’s wells, most of the water in the aquifer is pulled from the river. The rest of the water is supplied as water percolates up from a deeper bedrock aquifer or down from the top of the ground.
Distribution Options

- Mailing
  - Electronic delivery
- Mailing Waiver/Notification of availability
The information in the CCR can be confusing, misleading, and alarming to some readers.
- There should be more flexibility in mandatory language.
- Report should be simpler, shorter.
- Only list health-based violations.

CCR is helpful and easy to understand.
- Not difficult to understand and additional details should be included.
- Increases consumer confidence.
- Include all violations.
CCR Understandability/Readability

- Font size
- Units
  - mg/L, ppm (1 ppm = 1 inch in 16 miles)
  - Colony forming units
  - Picocuries
- Values less than 1
- Chemical names and technical terms
  - Trihalomethanes
  - Contaminants
  - Leaching