Substances That Could Be in Water

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- **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 stormwater 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 stormwater 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 stormwater runoff, and septic systems;
- **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants in tap water and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline at (800) 426-4791 or visit online at www.epa.gov/safewater/hotline. Information on bottled water can be obtained from the U.S. Food and Drug Administration.

More information about our water

In 2004, the Arizona Department of Environmental Quality completed a source water assessment for the Yuma Main Canal, “A” Main Canal, and groundwater wells used by the City of Yuma. The assessment reviewed the adjacent land uses that may pose a potential risk to the sources. The result of the assessment was adjacent land use with low risk to all source water. For a complete copy of the assessment contact dml@azdeq.gov or call 602-771-4641 or visit the ADEQ's Source Water Assessment and Protection Unit website at: www.azdeq.gov/environ/water/dw/swap.html.

**Variances and Exemptions**

ADEQ or EPA permission not to meet an MCL or a treatment technique under certain conditions:

The City of Yuma was granted a waiver from the Enhanced Coagulation and Enhanced Softening rules on July 2, 2002, by the Arizona Department of Environmental Quality. The waiver was based on two years of research performed on City of Yuma water. The data confirmed that the Colorado River water at Yuma is not amenable to the requirements of the rule. The waiver remains in effect as long as the running annual average for Total Trihalomethanes (TTHM) remains below 0.049 mg/L, and Halocarbon Acids (HAAS) remains below 0.048 mg/L.

**QUESTIONS?**

If you have any questions about this report or the quality of our drinking water, please contact Betsy Bowman, Laboratory Director, at the Utilities Treatment Laboratory, (928) 329-2893. E-mail address: Betsy.Bowman@yumaaz.gov

City of Yuma Home Page: www.yumaaz.gov


EPA Safe Water Hotline: (800) 426-4791

Arizona Department of Environmental Quality: (928) 234-5677

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The Agua Viva Water Treatment Facility uses a series of ground water wells. Ground water is pumped from the wells. Chlorine is added, followed by treatment for iron and manganese removal. The treated groundwater enters into storage tanks prior to disinfection and being distributed in the water system.

The surface water treatment process uses an advanced membrane treatment technology. Raw water is sent through a 500-micron screen, adding alum to coagulate particles. The water then enters a membrane ultra filtration system. After the water passes through the membranes, treated water will receive a dose of fluoride to prevent tooth decay. Finally the water will enter into storage tanks prior to disinfection and being distributed in the water system.

The Agua Viva Water Treatment Facility may use surface water, groundwater, or a blend of both prior to distribution in the water system.

MAIN STREET WATER TREATMENT FACILITY

City of Yuma Main Street Water Treatment Facility uses conventional water treatment methods.

1. Raw water is pumped from the Yuma Main Canal.
2. Raw water is stored with chlorine dioxide for algae control, alum and polymer for coagulation.
3. The coagulants continue to mix in the water to create floc as the water mixes its way through the clarification basins. This causes small particles in the water to adhere to one another (called floc), making them heavy enough to settle to the bottom of the sedimentation basin.
4. The water then flows through a series of filters that are washed regularly with water and air, removing suspended matter, and its clarity is improved.

Filtered water enters the clearwell which provides contact time for the post chlorinated water. This allows for disinfection of any bacterial contamination in the water and provides a chlorine residual for the distribution system. Fluoride (Hydrofluorosilicic Acid) is added to prevent tooth decay.

The entire process is continually monitored and tested in order to ensure that the process and water meet or exceed state and federal regulations. After the clear water well, the water is of excellent quality and is ready for distribution and use.

The water is then pumped to the City’s distribution and storage system. The water is distributed throughout the City of Yuma for residential, commercial and industrial use via more than 500 miles of pipelines.

The water is then sent through filters, sand, and bacteria which filter out the remaining suspended matter particles. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.

Message from the EPA

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or some other immune system disorders, some elderly, and infants may be particularly at risk from contaminants in water. Immunocompromised persons such as persons with cancer undergoing chemotherapy, HIV/AIDS, and other immune system disorders, some elderly, and infants may be particularly at risk from contaminants in drinking water.

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SAMPING RESULTS During 2015 the City of Yuma conducted all water quality testing required by state and federal regulations plus many more tests than regulations required. Testing revealed the city’s drinking water quality met all regulatory standards to safeguard public health. The data tables presents 2015 test results and corresponding water quality standards. The table below only describes those contaminants that were detected in the water.

The state requires us to monitor for certain substance less than once per year because the concentrations of substances do not change frequently. In those cases the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

<table>
<thead>
<tr>
<th>Substance (Unit of Measure)</th>
<th>Year Sampled</th>
<th>MCL (MRCL)</th>
<th>MRCL (MRCLG)</th>
<th>Amount Detected</th>
<th>Range Low-High</th>
<th>Range Low-High</th>
<th>Violation</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha Emitters (ppb)</td>
<td>2011</td>
<td>15</td>
<td>0</td>
<td>1.3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Barium (ppm)</td>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>0.97</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Chlorine (ppm)</td>
<td>2015</td>
<td>4</td>
<td>4</td>
<td>0.43</td>
<td>N/A</td>
<td>0.36</td>
<td>N/A</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Nitrate (ppm)</td>
<td>2015</td>
<td>10</td>
<td>10</td>
<td>0.28</td>
<td>N/A</td>
<td>0.25</td>
<td>N/A</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Sodium (ppm)</td>
<td>2015</td>
<td>2011</td>
<td>10</td>
<td>12</td>
<td>N/A</td>
<td>120</td>
<td>N/A</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Turbidity (NTU)</td>
<td>2015</td>
<td>17</td>
<td>17</td>
<td>0.05</td>
<td>0.010 - 0.223</td>
<td>0.233</td>
<td>0.010 - 0.223</td>
<td>No</td>
</tr>
<tr>
<td>Uranium (ppb)</td>
<td>2011</td>
<td>30</td>
<td>0</td>
<td>2.8</td>
<td>N/A</td>
<td>5.8</td>
<td>N/A</td>
<td>Emission of natural deposits</td>
</tr>
</tbody>
</table>

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4. The water then flows through dual media filters. Chloride (and orthophosphate) which filters out the remaining unsettled particle matter. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.

Lead in Home Plumbing

Lead, along with other lead-based materials in construction, 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. Each family is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing connections. When your home has been sitting for several years, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or eating. 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 lead exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or http://water.epa.gov/drink/hotline.

Lead and Copper Samplings from Residential Water Taps

The concentration of a contaminant that, if exceeded, is life sustaining or expected risk to health. MCLGs are not enforceable limits. MCLs are set as the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLs allow for a margin of safety.

UNREGULATED CONTAMINANT MONITORING (UCMR)

UCMR Sampling

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