Water Quality: Contaminants and Regulations

SFPUC Water Quality Division regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure that the water delivered to you meets or exceeds federal and state drinking water standards. In 2011, Water Quality staff conducted more than 69,875 drinking water tests in the transmission and distribution systems. This monitoring effort is in addition to the extensive treatment process control monitoring performed by our certified and knowledgeable treatment plant staff and online instruments.

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. Such substances are called contaminants. 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.

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in water that provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the USEPA’s Safe Drinking Water Hotline 800-426-4791.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that 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, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

Cryptosporidium is a parasitic microbe found in surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2010. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. If ingested these parasites may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Reducing Lead from Plumbing Fixtures

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. The Mid-Peninsula Water District is responsible for providing high quality drinking water, but cannot control the variety of materials and components associated with service lines and home plumbing.

The Mid-Peninsula Water District Board of Directors hold a Board Meeting on the 4th Thursday of each month. Customers may attend these meetings or speak with someone who understands it.

Spanish: “Este informe contiene información sobre los materiales y equipos de conducción de agua potable que se usan. Puede que algunos de estos materiales sean utilizados en su hogar. Si tiene alguna pregunta, por favor haga clic aquí.”

Tagalog: “Nagagalak ang report na ito ng impormasyon tungkol sa mga material na ginagamit sa iyong bahay. Magkaparing-arap ang isa sa mga material na ginagamit sa iyong bahay.”

The attached table lists all 2011 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits are not shown, in accord with the California Department of Public Health (CDPH) guidance.

This report contains important information about your drinking water. Have someone translate it for you or speak with someone who understands it.

Chinese(traditional): “此報告包含有關飲用水的重責任訊。請找翻譯出來，或請問我們此報告的人將內容說給您聽。”
The Mid-Peninsula Water District had 0 positive samples in 2011 from the SVWTP only. These are compliance data for SVWTP raw water.

Total Turbidity (TT) requirements apply to the filtered water. TT values are based on the State drinking water regulations.

Fluoride (source water) found in the unfiltered water in 2011 was 0.6 ppm - 0.8 ppm. The HTWTP raw water had elevated fluoride levels of 0.6 ppm - 0.8 ppm due to the continued supply of the fluoridated Hetch Hetchy and SVWTP treated water into the lower Crystal Springs Reservoir, which supplies water via the San Andreas Reservoir to the HTWTP for treatment.

The naturally occurring fluoride levels in the Hetch Hetchy and SVWTP raw water were ND and 0.12 ppm, respectively. The HTWTP raw water had elevated fluoride levels of 0.6 ppm - 0.8 ppm due to the continued supply of the fluoridated Hetch Hetchy and SVWTP treated water into the lower Crystal Springs Reservoir, which supplies water via the San Andreas Reservoir to the HTWTP for treatment.

### Other Water Quality Parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
<th>ORL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalinity (as CaCO₃)</td>
<td>10 - 84</td>
<td>49</td>
</tr>
<tr>
<td>Calcium (as Ca)</td>
<td>3 - 24</td>
<td>13</td>
</tr>
<tr>
<td>Chloride</td>
<td>36 - 488</td>
<td>89</td>
</tr>
<tr>
<td>Hardness (as CaCO₃)</td>
<td>10 - 98</td>
<td>57</td>
</tr>
<tr>
<td>Magnesium</td>
<td>&lt;0.04 - 82</td>
<td>N/A</td>
</tr>
<tr>
<td>pH</td>
<td>6.7 - 9.7</td>
<td>8.6</td>
</tr>
<tr>
<td>Sodium</td>
<td>3 - 20</td>
<td>13.5</td>
</tr>
</tbody>
</table>

### Lead and Copper

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PHG</th>
<th>AL</th>
<th>Range</th>
<th>90th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>ppb</td>
<td>0.2</td>
<td>0.2 - 15</td>
<td>0.2 ppm</td>
</tr>
<tr>
<td>Lead</td>
<td>ppb</td>
<td>0.2</td>
<td>0.2 - 15</td>
<td>0.2 ppm</td>
</tr>
</tbody>
</table>

### Key Water Quality Terms

- **PHG or AL:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Regulatory Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- **Turbidity:** A water clarity indicator that is also used to indicate the effectiveness of the filtration process. High turbidity can hinder the effectiveness of disinfectants.

### 2011 Water Quality Accomplishments

In the summer of 2011, the SFPUC began using ultraviolet (UV) light as an additional disinfection step for the Hetch Hetchy supply water. The new Tesla Treatment Facility uses state-of-the-art UV treatment equipment to provide advanced disinfection for the Hetch Hetchy supply in the Regional Water System which serves 2.5 million customers. The facility was built to comply with the USEPA regulations that require an additional disinfection step by April 2012 to protect the water supply from the Cryptosporidium parasite. The facility can treat up to 315 million gallons of water per day - making it the largest UV drinking water treatment plant in California and the third largest in the US.