The Highest Quality Water

The SFPUC’s Water Quality Division regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure that the drinking water meets or exceeds federal and state water standards. In 2009 Water Quality staff conducted 58,595 drinking water tests in the transmission and distribution systems. This monitoring effort is in addition to the extensive process control monitoring performed by SFPUC certified treatment plant staff.

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.

The table on the inside lists all drinking water contaminants detected in 2009. Contaminants below detection limits, such as arsenic, perchlorate, MTBE, and others, are not listed. In the same year, SFPUC also completed four quarters of monitoring 25 contaminants that are not required under the USEPA second Unregulated Contaminant Monitoring Regulation. All 25 contaminants were not detected in the water supplied to you. The list of these contaminants is available at the USEPA website:

http://www.epa.gov/safe-water/ucmr/ucmr2/basicinformation.htm#list

The table contains the name of each contaminant, the applicable drinking water standards or regulatory action levels, the ideal goals for public health, the amount detected in water, the typical contaminants found, and footnotes explaining the findings. The State allows the SFPUC to monitor for some contaminants less than once per year because their concentrations do not change. For certain other contaminants that were absent, the water based on many years of monitoring, the SFPUC received a monitoring waiver from the State.

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Contaminants that may be present in source water include:

- 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 consumer products, and also naturally occurring in water systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the 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 bottled water that must 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 (1-800-426-4791).

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 2009. 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, stomach cramps, diarrhea, and associated headaches.

Lead and Copper Sampling for 2009

Mid Peninsula Water District has conducted its Tri Annual Lead and Copper sampling tests to our 33 customers who volunteered to be part of the sampling process. The results of these samples taken can be seen in the table under Detected Contaminants (LEAD AND COPPER RULE STUDY).

MPWD will be sampling again in 2012, if you would like to volunteer for the next round of sampling please contact our office at (650) 591-8941.

Special Health Needs

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 and health.

Our Drinking Water Sources

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. For our system, the major water source originates from spring snowmelt flowing down the Tuolumne River to the Hetch Hetchy Reservoir, where it is stored. This pristine water source is located in the well-protected Sierra region and meets all federal and state criteria for watershed protection. The SFPUC’s discharge treatment processes include biological-quality monitoring, and high operational standards, the State has granted the Hetch Hetchy water source a filtration exemption. In other words, the source is so clean and protected that the SFPUC is not required to filter water from the Hetch Hetchy Reservoir.

The remaining water in the supply consists of surface water collected from two local watersheds. Rainfall and runoff collected from the Alameda Watershed, which spans more than 35,000 acres in Alameda and Santa Clara Counties, are captured in Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these two reservoirs is treated at the Sunol Valley Water Treatment Plant (SVWTP). Treatment processes include coagulation, flocculation, sedimentation, filtration, and disinfection. Fluoridation, chloramination and corrosion control treatment are provided for the combined Hetch Hetchy and SVWTP water at the Sunol Chloramination and Fluoridation Facilities.

Rainfall and runoff captured in the 23,000 acre Peninsula Watershed, located in San Mateo County, are stored in four reservoirs: Crystal Springs (Lower and Upper), San Andreas, Pilarcitos, and Stone Dam. The water from these reservoirs is treated at the Harry Tracy Water Treatment Plant (HTWTP). Treatment processes include ozonation, coagulation, flocculation, filtration, disinfection, fluoridation, chloramination, and corrosion control treatment.

Want to learn more about drinking water regulations? Visit the CDPH website at www.cdphe.ca.gov or the USEPA website at www.epa.gov.
### DETECTED CONTAMINANTS

<table>
<thead>
<tr>
<th>DETECTED CONTAMINANTS</th>
<th>Unit</th>
<th>PHG or MCLG</th>
<th>MCL</th>
<th>Range or Level Found</th>
<th>Average or (Maximum)</th>
<th>Typical Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TURBIDITY</strong></td>
<td>NTU</td>
<td>N/A</td>
<td>5</td>
<td>0.27-0.52 (3)</td>
<td>(3.87) (4)</td>
<td>Soil run-off</td>
</tr>
<tr>
<td><strong>Total Haloacetic Acids (HAAs)</strong></td>
<td>ppm</td>
<td>N/A</td>
<td>60</td>
<td>5 - 27 (21)</td>
<td>5.5 - 10</td>
<td>By-product of drinking water chlorination</td>
</tr>
<tr>
<td><strong>Total Trihalomethanes (TTHMs)</strong></td>
<td>ppm</td>
<td>N/A</td>
<td>60</td>
<td>1.2 - 1.9</td>
<td>1.6</td>
<td>By-product of drinking water chlorination</td>
</tr>
<tr>
<td><strong>Other Water Quality Parameters</strong></td>
<td>Unit</td>
<td>SMCL</td>
<td>Range</td>
<td>Average</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alkalinity (as CaCO3)</strong></td>
<td>ppm</td>
<td>N/A</td>
<td>500</td>
<td>23 - 45</td>
<td>23.5</td>
<td>Runoff from natural deposits</td>
</tr>
<tr>
<td><strong>Chloride</strong></td>
<td>ppm</td>
<td>N/A</td>
<td>500</td>
<td>11 - 26</td>
<td>15</td>
<td>Runoff from natural deposits</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>unit</td>
<td>N/A</td>
<td>15</td>
<td>2 - 21</td>
<td>2.1</td>
<td>Runoff from natural deposits</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>11 - 13</td>
<td>12</td>
<td>Corrosion of household plumbing systems</td>
</tr>
</tbody>
</table>

### DISINFECTION BY-PRODUCTS (MPWD)

- **Total Chloramines (1.0M)**
- **Total Haloacetic Acids (HAAs)**
- **Total Trihalomethanes (TTHMs)**

### MICROBIOLOGICAL (MPWD)

- **Total Coliform- Number of Coliform-Positive Samples (NPo)**
- **Giardia lamblia**

### INORGANIC CHEMICALS

- **Fluoride (source water)**
- **Chlorine (Free and Total)**

### CONSTITUENTS WITH SECONDARY STANDARDS

- **Aluminum**
- **Chloride**
- **Color**
- **Specific Conductance**
- **Sulfate**
- **Total Dissolved Solids**
- **Turbidity**

### LEAD AND COPPER RULE STUDY (MPWD)

- **Copper**
- **Lead**

### OTHER WATER QUALITY PARAMETERS

- **Alkalinity (as CaCO3)**
- **Boron**
- **Bromide**
- **Calcium (as Ca)**
- **Chlorate**
- **Hardness (as CaCO3)**
- **Magnesium**
- **pH**
- **Potassium**
- **Silica**
- **Sodium**

### How Your Water Measures Up

Following are definitions of key terms noted on the adjacent water quality data chart. These terms refer to the standards and goals for water quality described below.

#### Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

#### 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 are set by the USEPA.

#### Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

#### Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer’s tap.

#### Maximum Residual Disinfectant Level Goal (MRDLG): The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the USEPA.

#### Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

#### Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

#### Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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Mid Peninsula Water Districts Upgrades for 2009

In 2009 MPWD staff installed 1,300 feet of 10 inch PVC water main. This new water main stretches from Chula Vista to the end of Altuna Way and will connect to the Exbourne Pump Station when construction is complete. Also part of this project was the completion of a new 1 million gallon storage tank, which is now in service and operating customers. When completed in 2010 this project will include 2 new storage tanks (1-1 million gallon and 1-1.5 million gallon), a upgraded pump station with a back-up generator that will allow the pumps to operate in a power outage, and a new pumping line to the 2 storage tanks on Buckland Ave. This will replace a 2 million gallon tank built in1925 in need of major repairs, and an aging pump station that was in service in 1949. When completed MPWD will have more efficient pumping capabilities, and an additional 5 million gallons of storage for firefighting and emergency use. Also this will allow the District to do the periodic cleaning of the tanks in a more cost effective manner.