



**Council Meeting: March 29, 2011**

**SUBJECT: Public Hearing to Review and Receive Comments on *City of Sunnyvale Public Health Goal Report (City's Water System)* Prepared for the California Department of Health Services With Recommendation of No Further Action Required**

**BACKGROUND**

Section 116470(b) of the California Health and Safety Code (included in Attachment A, as a separate attachment to the Public Health Goals Report) requires preparation of a "Public Health Goal (PHG) Report" every three years if water quality monitoring results over the previous 3 calendar years indicate levels that exceed any California Public Health Goals (PHGs) and/or federal Maximum Contaminant Level Goals (MCLGs). The attached PHG report (Attachment A) covers the period of calendar years 2007-2009, and was filed with the California Department of Public Health (CDPH) on July 1, 2010.

Any substance found in water is referred to as a "contaminant." Not all contaminants are harmful, not all are regulated, and sometimes not all contaminants in water are known. For instance, bottled water is considered a food, and is therefore not tested to the same degree as tap water. Many substances (contaminants) in bottled water are not known, nor identified, because testing for them is not required by law. Tap water is tested intensely, for specific, known components. Again, some might be harmful in certain quantities, while others are not.

State law (the California Health and Safety Code) does not require any action to be taken for mitigating contaminant levels that exceed the PHG but are lower than the Maximum Contaminant Level (MCL) set by the State or the US Environmental Protection Agency (USEPA). Review of the report and comments received on the report are for information and recommendation purposes only.

As described in the report, PHGs are non-enforceable goals established by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA). MCLGs are goals that are adopted by USEPA, and only come into play if there is no California PHG. PHGs may not be more lenient than MCLGs. PHGs/MCLGs are not required to be met by any public water system. The MCL is the highest level to which a substance that has a PHG, or MCLG, is allowed in drinking water. MCLs are set as the limit that a public water system must not exceed. Violations of MCLs can result in fines,

abatement orders, public alerts, or closure of facilities. When the USEPA, or the CDPH, adopts an MCL, they take into account such factors as (1) analytical methodologies, (2) effectiveness of available treatment technologies, and (3) health benefits versus costs. Though PHG/MCLG levels are not enforced, the USEPA still requires that all municipal water agencies acknowledge any condition which exceeds the PHG/MCLG every three (3) years, as a way to monitor and support the proper management of municipal water systems in supplying safe drinking water.

The Sunnyvale PHG report was prepared by HydroScience Engineers, Inc., a consultant employed by the City to assist with certain water reports. In addition to their expertise in the field, using an outside consultant also helps to maintain some objectivity in the analysis and preparation of the report.

During the three year period covered by the report, there were no contaminants found in the water at a level higher than a California PHG. There was one contaminant that was detected in excess of a federal MCLG, and state law requires that this be reported the same as if there was an existing PHG. The one contaminant found was coliform bacteria. Coliform bacteria is an indicator organism that is not considered harmful. It is used to identify the potential presence of pathogens in the water. Pathogens are microorganisms that can cause disease if ingested. The City takes samples regularly to monitor for the absence of coliform in over 1600 samples during a year. The MCL is to find coliform present in fewer than 5.0% of the samples taken. During the past three years, the Sunnyvale samples have tested positive for coliform 0.7% of the time. This is far below the MCL, but the federal MCLG for coliform is zero (0) positive samples.

It is not unusual for a system to have an occasional positive coliform sample. A positive sample serves as a trigger to prompt further investigation into the presence of other organisms, requiring additional sampling to be done immediately after it is detected. In all instances when there was a positive test, follow-up samples were taken immediately, and additional testing was conducted. In every case, there was an absence of pathogens, and follow-up tests proved to be negative. The indication is that an imperfection in the sampling technique, or a random dust or dirt particle created the positive result, but that there was never a harmful substance introduced to the water. The system proved to be safe in every instance.

Additional details about the coliform result, and steps taken to keep the system clear of pathogens, are included in the report. The conclusion of the report is that there is no need to take any additional actions, and that the condition of the Sunnyvale water meets all state and federal requirements.

Another PHG issue that has been in the news has to do with hexavalent chromium, or chromium 6. At this time there is no PHG, MCLG or MCL for chromium 6, and the City does not test for it. We report some results from tests performed in 2002 in our annual Water Quality Report, but there have been no tests in Sunnyvale since that time, and none are required. Attachment 2 to the PHG report is a list of "Regulated Drinking Water Contaminants" prepared by the Association of California Water Agencies (ACWA). Chromium 6 is not, currently, a regulated drinking water contaminant. The Santa Clara Valley Water District (District) has recently prepared a fact sheet about chromium 6 (Attachment B) and it is included, also for informational purposes. It is not a part of the formal PHG report, and is not a part of any recommendation or action from this report.

### **EXISTING POLICY**

Relevant City goals, policies and action statements include these specific items from ***Policy 3.1.1 Water Resources — Goals, Policies and Action Strategies*** of Section 3.1 Water Resources of the Council Policy manual:

***GOAL D: Water Quality*** - Ensure that all water meets state and federal standards for aesthetics, quality and health.

***Policy D.1:*** Maintain and update a comprehensive water quality-monitoring program that meets or exceeds all state and federal requirements, while also meeting specific City and residents' needs.

#### ***Applicable Action Strategies***

***D.1a:*** Monitor state and federal legislation to ensure that the City's sampling and testing procedures meet all requirements.

***D.1b:*** Work in collaboration with water suppliers to ensure that all purchased water meets or exceeds all required standards.

***D.1c:*** Provide staff with adequate certification training as required by California Department of Health.

***D.1d:*** Provide the public with information and seek public input relative to the City's water quality program.

### **FISCAL IMPACT**

There is no fiscal impact in the review and consideration of the information included in the attached report, and there are no recommended actions that would require monetary expenditure.

### **PUBLIC CONTACT**

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, in the Council Chambers lobby, in the

Office of the City Clerk, at the Library, Senior Center, Community Center, and Department of Public Safety; posting the agenda and report on the City's Web site; and making the report available at the Library and the Office of the City Clerk.

**ALTERNATIVES**

1. Council, receive and acknowledge comments from the public on the PHG Report and refer any comments to the Department of Public Works for consideration and to address as appropriate.
2. Council request additional follow-up information from the Department of Public Works in regards to information in the PHG report, and/or questions or issues raised in the public hearing.

**RECOMMENDATION**

Staff recommends Alternative No. 1: Council, receive and acknowledge comments from the public on the PHG Report and refer any comments to the Department of Public Works for consideration and to address as appropriate.

There are no major issues with the water provided to residents of Sunnyvale. Our water meets all federal and state requirements for quality. The City of Sunnyvale and our wholesale providers will continue to monitor and manage water supplies to meet all requirements and regulations.

Reviewed by:

Marvin A. Rose, Director, Public Works  
Prepared by: Jim Craig, Superintendent of Field Services

Approved by:

Gary M. Luebbers  
City Manager

**Attachments**

- A. City of Sunnyvale Public Health Goals Report
- B. Santa Clara Valley Water District Fact Sheet on Chromium 6

# CITY OF SUNNYVALE

## PUBLIC HEALTH GOALS REPORT

### BACKGROUND

The California Health and Safety Code, section 116470(b) (see **Attachment 1**) requires public water systems serving more than 10,000 service connections to prepare a Public Health Goal Report by July 1, 2010 if water quality monitoring results over the past 3 years exceed any California Public Health Goals (PHGs) and/or federal Maximum Contaminant Level Goals (MCLGs). PHGs are non-enforceable goals established by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA). MCLGs are goals that are adopted by USEPA, and only come into play if there is no California PHG. PHGs may not be more lenient than MCLGs.

Only constituents that have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed in the Report. **Attachment 2** contains a list of the regulated constituents and their respective PHGs or MCLGs. Total coliform was the only constituent which minimally exceeded the MCLG, but still well below any action level. There is no PHG for total coliform.

If a constituent was detected by a water supplier between January 1, 2007 and December 31, 2009 at a level exceeding an applicable PHG or MCLG, the Report shall contain information required by the law. The required information includes:

- Numerical public health risk associated with the enforced Maximum Contaminant Level (MCL) and the PHG or MCLG;
- Category or type of risk to health that could be associated with each constituent;
- Best treatment technology available that could be used to reduce the constituent level; and
- Estimate of the cost to install that treatment if it is appropriate and feasible.

### PHG/MCLG vs. MCL

PHGs are set by OEHHA (and MCLGs by USEPA) based solely on public health risk considerations. MCLs are set by USEPA or the California Department of Public Health (CDPH) as the contaminants maximum level which public water systems must not exceed. Violations of MCLs can result in fines, abatement orders, or closure of facilities. When the USEPA, or the CDPH, adopts an MCL, they take into account such factors as (1) analytical methodologies, (2) effectiveness of available treatment technologies, and (3) health benefits versus costs. PHGs (and MCLGs) are not enforceable and are not required to be met by any public water system.

### Water Quality Data Review for this Report

Water quality data collected by the City of Sunnyvale during the calendar years of 2007, 2008 and 2009 for purposes of determining compliance with drinking water standards were reviewed in order to prepare this Report. This data was summarized in our 2007, 2008 and 2009 Annual Water Quality Reports, also known as Consumer Confidence Reports, which were distributed to all of our customers by July of the following year and is typically included in the summer issue of the City's Quarterly Report (see **Attachment 3** for copies of City of Sunnyvale Consumer

Confidence Reports).

## **Guidelines Followed for Preparation of this Report**

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing required PHG Reports. These guidelines, titled "Suggested Guidelines for Preparation of Required Reports on PUBLIC HEALTH GOALS (PHGs) to satisfy requirements of California Health and Safety Code Section 116470(b) were used in the preparation of this Report.

## **Best Available Treatment Technology and Cost Estimates**

Both USEPA and CDPH adopt Best Available Technologies, which are the best known methods of reducing contaminant levels below the MCL. While a BAT may identify a process that can reduce the presence of a constituent, the cost of implementation can be a major factor in deciding whether or not to adopt the process. For a system that is in compliance with MCL levels, cost considerations must be a factor. Striving to keep constituents below PHG/MCLG levels must be evaluated with costs in mind.

Costs were estimated for the implementation of Best Available Technologies for each constituent exceeding PHGs or MCLGs. The PHGs and MCLGs are set much lower than the MCL, and it is not always possible or feasible to determine what treatment is needed to further reduce a constituent to or below the PHG or MCLG. In some cases, such as when the MCLG or PHG is set at zero, there may not be commercially available technology to reach that level. The issue is further complicated because it is often not possible to verify by analytical means that the constituent has been totally eliminated. In some cases, installing a treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality. This report presents the required cost estimates to implement the Best Available Technologies to reduce the constituent to a level at or below the PHG/MCLG.

## **CONSTITUENTS DETECTED THAT EXCEED A PHG OR AN MCLG**

In reviewing water quality monitoring data collected during 2007, 2008, and 2009, City of Sunnyvale staff have concluded that a PHG Report is required that addresses coliform bacteria.

The following section presents a discussion of the constituent that was detected in one or more of our drinking water sources at levels above the PHG/MCLG.

### **Coliform Bacteria**

In 1989 EPA developed the Total Coliform Rule. The MCL for total coliforms is five percent (5%) positive samples of all samples collected in each month. The MCLG is zero (there is no PHG for coliform bacteria).

The reason for the coliform standard is to minimize the possibility for drinking water to contain pathogens. Pathogens are microorganisms that can cause disease if ingested. Coliform bacteria is an indicator organism that is not generally considered harmful, but is used to identify the potential presence of pathogens in the water. It is not unusual for a system to have an occasional positive sample. A positive sample serves as a trigger to prompt further investigation into the presence of other organisms, requiring additional sampling to be done immediately after it is discovered.

The monitoring of a non-harmful constituent (coliform bacteria) to indicate the possible presence

of harmful pathogens makes for an inexact, but generally conservative process. Therefore, it is not possible to state a specific numerical health risk associated with a given level of coliform bacteria. EPA normally sets MCLGs “at a level where no known or anticipated adverse effects on persons would occur.” When EPA published the final Total Coliform Rule they stated that it was not possible to determine such a level with coliform sampling. The absence of coliform bacteria is therefore the goal, and when that goal is not achieved, follow-up testing verifies whether an actual pathogen is present.

### **Best Available Technology Identified in the Total Coliform Rule**

The Total Coliform Rule identifies the following as Best Available Technologies for protecting against total coliform:

1. Protection of wells from contamination by appropriate placement and construction;
2. Maintenance of a disinfectant residual throughout the distribution system;
3. Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system;
4. Filtration and/or disinfection of surface water as described in Subpart H, or disinfection of ground water using strong oxidants such as chlorine, chlorine dioxide, or ozone; or
5. The development and implementation of an EPA-approved State Wellhead Protection Program under section 1428 of the Safe Drinking Water Act.

The City of Sunnyvale has implemented all of the above actions or processes, or obtains water from suppliers who implement these processes (such as filtration and chloramination). It may be possible to reduce or eliminate the presence of total coliform by increasing the amount of disinfectant residual in the distribution system; however, the tradeoff will include the increased potential for the presence of cancer-causing disinfection byproducts. In the interest of protecting the public’s health, the City would prefer to continue to implement the current technologies and monitoring and maintenance program. As such, there is no estimated cost associated with additional treatment to reduce the incidence of coliform bacteria.

### **Sunnyvale Total Coliform Rule Monitoring Results**

Each month the City collects at least 140 samples from sites located throughout the distribution system that are analyzed for the presence of coliform bacteria. If a positive coliform sample is found, follow-up sampling is done for more specific indicators of fecal contamination.

Over the last three years, the monthly average of positive samples for coliform bacteria ranged from 0% to 0.70 %. All instances where a positive coliform sample was initially found, follow-up samples were negative for E. coli bacteria.. The data indicated that these were isolated incidents, and the quality of the water in the distribution system was never compromised.

The City of Sunnyvale works closely with our regional water suppliers, the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). Both SCVWD and SFPUC provide water with a chloramine residual in accordance with the Total Coliform Rule.

Other measures and programs that the City implements to protect the microbiological quality of the drinking water served include:

- flushing of all distribution system dead-ends every year;
- flushing of all hydrants every two years;
- cross-connection control program;
- monitoring of a disinfectant residual throughout the distribution system;
- ongoing microbiological monitoring and surveillance program of all groundwater sources and
- the distribution system;
- program to clean all distribution system tanks every 5 years; and maintenance of positive pressures throughout the distribution system.

As stated above, monitoring for coliform bacteria to indicate the possible presence of harmful pathogens is a conservative, yet inexact process. As such, there is no specific numerical correlation to health risk. However, the City has implemented a vigilant monitoring and maintenance program that is intended to meet the requirements of the Total Coliform Rule and protect public health.

No additional actions are recommended at this time for coliform bacteria.

### **SUMMARY AND CONCLUSION**

The drinking water for the City of Sunnyvale meets all standards established by CDPH and USEPA to protect public health. No additional treatment is recommended in an effort to decrease the incidence of total coliform in system water testing. The level of total coliform detected is well below the MCL, and elimination may be impossible. Therefore, no additional actions are proposed at this time for coliform bacteria. The City and its water suppliers will continue to implement the Best Available Technologies as well as the monitoring and maintenance program.

### **Attachments:**

- 1 Excerpt from California Health & Safety Code: Section 116470 (b)
- 2 Table of Regulated Constituents with MCLs, PHGs or MCLGs
- 3 Consumer Confidence Reports for 2007, 2008, and 2009.

# ATTACHMENT 1

## CALIFORNIA HEALTH AND SAFETY CODE

### Section §116470. Public Health Goal Report

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

- (1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.
- (2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.
- (3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.
- (4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.
- (5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.
- (6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.

## ATTACHMENT 2

**MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants Last Update:  
December 31, 2009**

Prepared and provided by the Association of California Water Agencies (ACWA).

## MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants Last Update: December 31, 2009

The following table includes:

CDPH's maximum contaminant levels (MCLs)

CDPH's detection limits for purposes of reporting (DLRs)

Public health goals (PHGs) from the Office of Environmental Health Hazard Assessment (OEHHA)

(Units are in milligrams per liter (mg/L), unless otherwise noted.)

	State MCL	DLR	PHG or (MCLG)	Date of PHG
<b>Chemicals with MCLs in 22 CCR §64431 —Inorganic Chemicals</b>				
Aluminum	1	0.05	0.6	2001
Antimony	0.006	0.006	0.02 <sub>a</sub>	1997
Arsenic	0.010	0.002	0.000004	2004
Asbestos (MFL = million fibers per liter; for fibers >10 microns long)	7 MFL	0.2 MFL	7 MFL	2003
Barium	1	0.1	2	2003
Beryllium	0.004	0.001	0.001	2003
Cadmium	0.005	0.001	0.00004	2006
Chromium, Total - OEHHA withdrew the 0.0025-mg/L PHG	0.05	0.01	withdrawn Nov. 2001	1999
Cyanide	0.15	0.1	0.15	1997
Fluoride	2	0.1	1	1997
Mercury (inorganic)	0.002	0.001	0.0012	1999 (rev2005)*
Nickel	0.1	0.01	0.012	2001
Nitrate (as NO <sub>3</sub> )	45	2	45	1997
Nitrite (as N)	1 as N	0.4	1 as N	1997
Nitrate + Nitrite	10 as N	--	10 as N	1997
Perchlorate	0.006	0.004	0.006	2004
Selenium	0.05	0.005	(0.05)	
Thallium	0.002	0.001	0.0001	1999 (rev2004)
<b>Copper and Lead, 22 CCR §64672.3</b>				
<i>Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule</i>				
Copper	1.3	0.05	0.3	2008
Lead	0.015	0.005	0.0002	2009
<b>Radionuclides with MCLs in 22 CCR §64441 and §64443 —Radioactivity</b>				
[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]				
Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical	15	3	(zero)	n/a

**MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants  
Last Update: December 31, 2009**

	<b>State MCL</b>	<b>DLR</b>	<b>PHG or (MCLG)</b>	<b>Date of PHG</b>
Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical	4 mrem/yr	4	(zero)	n/a
Radium-226		1	0.05	2006
Radium-228		1	0.019	2006
Radium-226 + Radium-228 (addressed together as one MCL)	5			
Strontium-90	8	2	0.35	2006
Tritium	20,000	1,000	400	2006
Uranium	20	1	0.43	2001
<b>Chemicals with MCLs in 22 CCR §6444 —Organic Chemicals</b>				
<b>(a) Volatile Organic Chemicals (VOCs)</b>				
Benzene	0.001	0.0005	0.00015	2001
Carbon tetrachloride	0.0005	0.0005	0.0001	2000
1,2-Dichlorobenzene	0.6	0.0005	0.6	1997 (rev2009)
1,4-Dichlorobenzene (p-DCB)	0.005	0.0005	0.006	1997
1,1-Dichloroethane (1,1-DCA)	0.005	0.0005	0.003	2003
1,2-Dichloroethane (1,2-DCA)	0.0005	0.0005	0.0004	1999 (rev2005)
1,1-Dichloroethylene (1,1-DCE)	0.006	0.0005	0.01	1999
cis-1,2-Dichloroethylene	0.006	0.0005	0.1	2006
trans-1,2-Dichloroethylene	0.01	0.0005	0.06	2006
Dichloromethane (Methylene chloride)	0.005	0.0005	0.004	2000
1,2-Dichloropropane	0.005	0.0005	0.0005	1999
1,3-Dichloropropene	0.0005	0.0005	0.0002	1999 (rev2006)
Ethylbenzene	0.3	0.0005	0.3	1997
Methyl tertiary butyl ether (MTBE)	0.013	0.003	0.013	1999
Monochlorobenzene	0.07	0.0005	0.2	2003
Styrene	0.1	0.0005	(0.1)c	
1,1,2,2-Tetrachloroethane	0.001	0.0005	0.0001	2003
Tetrachloroethylene (PCE)	0.005	0.0005	0.00006	2001
Toluene	0.15	0.0005	0.15	1999
1,2,4-Trichlorobenzene	0.005	0.0005	0.005	1999
1,1,1-Trichloroethane (1,1,1-TCA)	0.2	0.0005	1	2006
1,1,2-Trichloroethane (1,1,2-TCA)	0.005	0.0005	0.0003	2006
Trichloroethylene (TCE)	0.005	0.0005	0.0017	2009
Trichlorofluoromethane (Freon 11)	0.15	0.005	0.7	1997
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1.2	0.01	4	1997
Vinyl chloride	0.0005	0.0005	0.00005	2000
Xylenes	1.75	0.0005	1.8	1997
<b>(b) Non-Volatile Synthetic Organic Chemicals (SOCs)</b>				
Alachlor	0.002	0.001	0.004	1997
Atrazine	0.001	0.0005	0.00015	1999

**MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants  
Last Update: December 31, 2009**

	State MCL	DLR	PHG or (MCLG)	Date of PHG
Bentazon	0.018	0.002	0.2	1999 (rev2009)
Benzo(a)pyrene	0.0002	0.0001	0.000004 <sub>d</sub>	1997
Carbofuran	0.018	0.005	0.0017	2000
Chlordane	0.0001	0.0001	0.00003	1997 (rev2006)
Dalapon	0.2	0.01	0.79	1997 (rev2009)
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0.00001	1.70E-06	1999
2,4-Dichlorophenoxyacetic acid (2,4-D)	0.07	0.01	0.02	2009
Di(2-ethylhexyl)adipate	0.4	0.005	0.2	2003
Di(2-ethylhexyl)phthalate (DEHP)	0.004	0.003	0.012	1997
Dinoseb	0.007	0.002	0.014	1997
Diquat	0.02	0.004	0.015	2000
Endrin	0.002	0.0001	0.0018	1999 (rev2008)
Endothal	0.1	0.045	0.58	1997
Ethylene dibromide (EDB)	0.00005	0.00002	0.00001	2003
Glyphosate	0.7	0.025	0.9	2007
Heptachlor	0.00001	0.00001	0.000008	1999
Heptachlor epoxide	0.00001	0.00001	0.000006	1999
Hexachlorobenzene	0.001	0.0005	0.00003	2003
Hexachlorocyclopentadiene	0.05	0.001	0.05	1999
Lindane	0.0002	0.0002	0.000032	1999 (rev2005)
Methoxychlor	0.03	0.01	0.03	1999
Molinate	0.02	0.002	0.001	2008
Oxamyl	0.05	0.02	0.026	2009
Pentachlorophenol (PCP)	0.001	0.0002	0.0003	2009
Picloram	0.5	0.001	0.5	1997
Polychlorinated biphenyls (PCBs)	0.0005	0.0005	0.00009	2007
Simazine	0.004	0.004	0.004	2001
2,4,5-TP (Silvex)	0.05	0.001	0.025	2003
2,3,7,8-TCDD (dioxin)	3x10 <sup>-8</sup>	5x10 <sup>-9</sup>	(0) <sub>e</sub>	
Thiobencarb	0.07	0.001	0.07	2000
Toxaphene	0.003	0.001	0.00003	2003
<b>Chemicals with MCLs in 22 CCR §64533 —Disinfectant Byproducts</b>				
Total Trihalomethanes <sub>f</sub>	0.08			
Bromodichloromethane		0.0005	(zero)	
Bromoform		0.0005	(zero)	
Chloroform		0.0005	-0.07	
Dibromochloromethane		0.0005	-0.06	
Total Haloacetic Acids	0.06			
Monochloroacetic acid		0.002	-0.07	
Dichloroacetic acid		0.001	(zero)	
Trichloroacetic acid		0.001	-0.02	
Bromoacetic acid		0.001		
Dibromoacetic acid		0.001		

**MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants  
Last Update: December 31, 2009**

	<b>State MCL</b>	<b>DLR</b>	<b>PHG or (MCLG)</b>	<b>Date of PHG</b>
Bromate	0.01	0.005	0.0001	2009
Chlorite	1	0.02	0.05	2009
<b><i>Microbiological Contaminants (TT = Treatment Technique)</i></b>				
Coliform % positive samples	%	5		(zero)
Cryptosporidium**		TT		(zero)
Giardia Lamblia		TT		(zero)
Legionella		TT		(zero)
Viruses		TT		(zero)

- a. A draft CA PHG of 0.0007 mg/L was published in 2009
- b. A draft CA PHG of 0.0005 mg/L was published in 2008
- c. A draft CA PHG of 0.000013 mg/L was published in 2009
- d. A draft CA PHG of  $1 \times 10^{-9}$  mg/L was published in 2007
- e. Draft CA PHGs for individual trihalomethanes were published in 2009

\* OEHHA's review of this chemical during the year indicated (rev200X) resulted in no change in the PHG.

\*\* Surface water systems only

## ATTACHMENT 3

### City of Sunnyvale Consumer Confidence Reports:

- 2007 Water Quality Report
- 2008 Water Quality Report
- 2009 Water Quality Report



# City of Sunnyvale 2007 Water Quality Report

**We are proud to report that the water provided by the City of Sunnyvale continues to meet established water quality standards.** The City is required to test water quality over the course of each year, and the California State Department of Public Health requires us to distribute to all City customers an annual report on water quality. This report provides our customers with important information on the City's water supply sources and water quality testing.

In this report you will find important information, including a description of contaminants that may be present in source water. Inside, you will find the results of water quality testing performed in 2007 showing concentrations of various contaminants relative to health and aesthetic standards. **The bottom line: testing shows that the water provided by the City of Sunnyvale meets established Water quality standards.** The City is pleased to present this report to you and welcomes any comments you may have regarding the information contained in it. Please feel free to contact Val Conzet, Public Works Supervisor, at (408) 730-7510, TDD (408) 730-7501 or by e-mail at [vconzet@ci.sunnyvale.ca.us](mailto:vconzet@ci.sunnyvale.ca.us)

## CITY WATER SOURCES

Approximately 87 percent of the water provided by the City to our customers during a normal year is treated surface water. The remaining 13 percent is ground water pumped from nine City-owned and operated wells, and recycled water for some landscape and industrial customers.

The surface water comes from two sources. The Sunnyvale Water Program manages the delivery of San Francisco Public Utilities Commission (SFPUC) water from six delivery points located along their transmission pipeline, which runs through the northern part of the City. Eighty-six percent of SFPUC's water originates in the Hetch-Hetchy Reservoir located in Yosemite National Park, and the other 14 percent comes from the Calaveras or San Antonio reservoirs in the Alameda Creek watershed. About 42 percent of Sunnyvale's total water supply comes from the SFPUC.

The Sunnyvale Water Program also receives water from the Santa Clara Valley Water District (SCVWD) through connections in the southern part of the City. SCVWD obtains water from several sources, including the Sacramento/San Joaquin Delta and Anderson and Calero reservoirs, and treats the water at their Rinconada Treatment Plant in Los Gatos. About 45 percent of Sunnyvale's total water supply comes from the SCVWD.

## DISINFECTION – Chloramine/Chlorine/Ammonia

Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, is more stable than chlorine and offers a number of health benefits. Chloramine lasts longer in water to provide more protection against pathogens such as bacteria and viruses, and produces lower levels of disinfection byproducts such as trihalomethanes (THMs). State and federal regulations effective January 2002 lowered the allowable level of exposure to disinfection byproducts. The water provided by SFPUC and SCVWD is disinfected with chloramines which can affect dialysis treatment. The City maintains contact with dialysis treatment centers in the City. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Transpacific Network for Dialysis at (415) 331-1545 can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

## HEALTH 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 U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy or 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 from their health care providers about drinking water.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. 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.

## FLUORIDATION

The SFPUC completed construction on the new, system-wide fluoridation facility in 2005. Beginning November 2005 all water from the SFPUC is fluoridated. However, the City's other wholesale water provider (SCVWD) has no plans to fluoridate its water, and the City does not fluoridate well water. As a result, some areas of Sunnyvale receive fluoridated water, other areas receive non-fluoridated water, and some areas receive a mixture of fluoridated and non-fluoridated water. An explanation and a map showing the different areas were sent to all customers. This information is also available on the City's website. If you would like more information please contact the Water Program at (408) 730-7510.

## IMPORTANT CONTACTS

*Informed consumers are our best allies in maintaining safe drinking water. If you are interested in water information and decisions being made relative to new regulations, information is available on the Internet.*

### Water Quality

**7 a.m. - 4:30 p.m.**

(408) 730-7510

### Utility Billing

**8 a.m. - 5 p.m.**

Residential (408) 730-7400  
Commercial (408) 730-7681

### Backflow and Cross Connection Control Program

**7 a.m. - 4:30 p.m.**

(408) 730-7574

### TDD

(408) 730-7501

### City of Sunnyvale

[www.sunnyvale.ca.gov](http://www.sunnyvale.ca.gov)

### California Dept. of Public Health (CDPH)

[www.cdph.ca.gov](http://www.cdph.ca.gov)

### U.S. Environmental Protection Agency (EPA)

(800) 426-4791

[www.epa.gov/ogwdw/](http://www.epa.gov/ogwdw/)

### Dept. of Water Resources (DWR)

[www.dwr.water.ca.gov/](http://www.dwr.water.ca.gov/)

To learn more about mercury preparedness for yourself and your family, visit [www.oes.insunnyvale.com](http://www.oes.insunnyvale.com)

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

此份有关你的食水报告,内有重要资料和讯息他人替你翻译及解释清楚。

Chi tiet này thật quan trọng.  
Xin nhờ người dịch cho quý vị.

**City of Sunnyvale  
2007 Water Quality  
Report**



**2007 Water Quality Test Results for  
Water Provided by the City of Sunnyvale<sup>(1)</sup>**

ALL RESULTS MET STATE AND FEDERAL WATER REGULATIONS

[How to Read this Chart](#)

The first column, labeled "Standards," lists the standards for various water quality parameters and contaminants. The second column, labeled "Water Test Results," shows the range of concentrations in water quality samples taken during 2007, as well as the average concentration. This data is shown for the three sources of Sunnyvale's water: ground water (wells) and imported surface water from the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). To evaluate test results, compare the standards with the actual measured concentrations listed under "Water Test Results." The final column describes where contaminants may originate. In most cases, the specific source of a contaminant is not known. Any contaminants below detection limits such as arsenic, perchlorate, MTBE, etc., are not listed on the chart.

STANDARDS				WATER TEST RESULTS						TYPICAL SOURCES IN DRINKING WATER
Primary Standards - Mandatory Health Related Standards										
Parameter	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Sunnyvale Ground (Well) Water <sup>(5)</sup>		Imported Surface Waters				
				Range	Avg.	SCVWD <sup>(6)</sup>		SFPUC <sup>(7)</sup>		
						Range	Avg.	Range	Avg.	
<b>CLARITY</b>										
Turbidity <sup>(8)</sup>	NTU	5 <sup>(9)</sup>	NS	0.10 - 2.20	0.55	0.04 - 0.08	0.06	0.08 - 0.24	0.15	Soil runoff.
<b>Disinfection Byproducts, Residuals, Precursors</b>										
Total Trihalomethanes (TTHM)	ppb	80	N/A	ND - ND	ND	28 - 48	38	11 - 44	32	By-product of drinking water chlorination.
Total Haloacetic Acids (HAA5)	ppb	60	N/A	NA - NA	NA	10 - 18	13	3 - 29	18	By-product of drinking water chlorination.
TOC (precursor control)	ppm	TT	NA	NA - NA	NA	1.32 - 2.12	1.73	0.7 - 2.5	1.9	Various natural and man-made sources
<b>INORGANIC CHEMICALS</b>										
Barium	ppm	1	2	<.1 - 0.15	0.10	ND - ND	ND	NA - NA	NA	Erosion of natural deposits.
Fluoride <sup>(14)</sup>	ppm	2	1	0.1 - 0.2	0.1	ND - 0.1	0.1	<0.1 - 0.7	0.3	Erosion of natural deposits. Water additive that promotes strong teeth.
Nitrate + Nitrite as N	ppm	10	10	2.3 - 7.4	4.5					Runoff and leaching from fertilizer use. Erosion of natural deposits.
Nitrate as NO <sub>3</sub> <sup>(15)</sup>	ppm	45 (as nitrate) 10 (as nitrogen)	45 (as nitrate) 10 (as nitrogen)	9.8 - 28.2	18.1	ND - 3	3	NA - NA	NA	Runoff and leaching from fertilizer use. Erosion of natural deposits. <i>Health Note: Infants below the age of six months who drink water containing nitrate in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.</i>
<b>MICROBIOLOGY</b>										
Giardia Lamblia	cyst/L	TT	[0]	NA - NA	NA	ND - ND	ND	ND - 0.03	0.03	Naturally present in th environment
<b>RADIONUCLIDES</b>										
Gross Alpha	pCi/L	15	[0]	<3 - <3	<3	NA - NA	NA	NA - NA	NA	Erosion of natural deposits.
Gross Beta <sup>(16)</sup>	pCi/L	50	[0]	<3 - <3	<3	NA - NA	NA	NA - NA	NA	Decay of natural and man-made deposits.
Radium - 226 + 228	pCi/L	5	[0]	<1 - <1	<1	NA - NA	NA	NA - NA	NA	Erosion of natural deposits.
Secondary Standards - Aesthetic Standards										
Parameter	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Sunnyvale Ground (Well) Water <sup>(5)</sup>		Imported Surface Waters				
				Range	Avg.	SCVWD <sup>(6)</sup>		SFPUC <sup>(7)</sup>		
						Range	Avg.	Range	Avg.	
<b>PHYSICAL PARAMETERS</b>										
Color	Units	15	N/A	<3 - 5	1.71	<2.5 - <2.5	<2.5	NA - NA	NA	Naturally-occurring organic materials.
Odor - Threshold	T.O.N.	3	N/A	1.0 - 1.0	1.0	1 - 1	1	NA - NA	NA	Naturally-occurring organic materials.
Chloride	ppm	500	N/A	31 - 72	47.7	65 - 88	75	<3 - 17	9	Runoff/leaching from natural deposits; seawater influence.
Copper	ppm	1	0.17	<0.05 - <0.05	<0.05	ND - ND	ND	NA - NA	NA	Internal corrosion of household plumbing systems; erosion of natural
Foaming Agents (MBAS)	ppb	500	N/A	<50 - <50	<50	<50 - <50	<50	NA - NA	NA	Municipal and industrial waste discharges.
Sulfate	ppm	500	N/A	21 - 40	34	48.1 - 54.9	51.3	0.8 - 37	17.6	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids	ppm	1000	N/A	400 - 512	433	250 - 284	266	25 - 193	109	Runoff/leaching from natural deposits.
Specific Conductance	uS/cm	1600	N/A	595 - 824	695	475 - 563	518	32 - 320	185	Substances that form ions when in water; seawater influence.
<b>ADDITIONAL CONSTITUENTS</b>										
pH	Units	N/S	N/A	7.5 - 7.8	7.7	7.5 - 7.7	7.6	8.7 - 9.3	9.0	
Total Alkalinity (as CaCO <sub>3</sub> )	ppm	N/S	N/A	218 - 274	244	59 - 75	68	8 - 112	59	
Hardness (as CaCO <sub>3</sub> )	ppm	N/S	N/A	263 - 332	296	83 - 103	93	8 - 116	61	
Calcium as CaCO <sub>3</sub>	ppm	N/S	N/A	NA - NA	NA	41 - 52	45	NA - NA	NA	
Sodium	ppm	N/A	N/A	22 - 39	29	55 - 72	64	3 - 22	14	
Temperature	Deg. C	N/S	N/A	N/A - N/A	NA	14 - 23	19	NA - NA	NA	
Magnesium	ppm	N/A	N/A	20 - 33	26	11 - 14	12	<0.2 - 9.4	5.4	
Potassium	ppm	N/A	N/A	1.2 - 1.6	1.4	2.6 - 3.3	3.1	0.3 - 1.5	0.9	
Total Ammonia	ppm	N/S	N/A	NA - NA	NA	0.43 - 0.60	0.5	NA - NA	NA	
Boron (1000ppb notification level)	ppb	NS	N/A	0.14 - 0.20	0.20	115 - 162	134	NA - NA	NA	
Calcium	ppm	N/A	N/A	64 - 98	83	16 - 21	18	3 - 29	15.3	
Chlorate	ppb	N/S	N/A	NA - NA	NA	102 - 169	133	NA - NA	NA	
Silica	ppm	N/A	N/A	NA - NA	NA	12 - 14	12	4.2 - 9.3	6.1	
Radon	pCi/L	N/A	N/A	280 - 530	396	NA - NA	NA	NA - NA	NA	
Chromium 6 (Hexavalent)	ppb	N/A	N/A	0.25 - 2.75	1.60	ND - ND	ND	ND - ND	ND	
SUNNYVALE DISTRIBUTION SYSTEM										
	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Range	90th Percentile	Typical Sources in Drinking Water				
<b>LEAD AND COPPER RULE STUDY-latest 2007</b>										
Copper - City of Sunnyvale (52 homes)	ppb	AL <sup>(17)</sup> AL=1300 <sup>(18)</sup>		ND - 1380	151	Corrosion of household plumbing systems.				
Lead - City of Sunnyvale (52 homes)	ppb	AL=15 <sup>(19)</sup>		ND - 32	2	Corrosion of household plumbing systems.				
	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Range	Avg.	Typical Sources in Drinking Water				
<b>DISINFECTION BYPRODUCTS</b>										
Total Trihalomethanes <sup>(13)</sup>	ppb	80	N/A	0.9 - 63.1	44.9	By-product of drinking water chlorination.				
Total Haloacetic Acids (HAA5) <sup>(13)</sup>	ppb	60	N/A	ND - 22.0	21.6	By-product of drinking water chlorination.				
Disinfectant residual -chlorine	ppm	MRDL = 4 (as Cl <sub>2</sub> )	MRDLG = 4 (as Cl <sub>2</sub> )	1.79 - 2.12	1.94	Disinfectant added for treatment.				
<b>MICROBIOLOGICAL</b>										
Total Coliform Bacteria, highest % of positives detected in any month <sup>(20)</sup>	% Pos	≤ 5.0	[0]	0 - 0.52	0.043	Naturally present in the environment.				

(1) Set forth in 40 CFR Part 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22, Section 116470.  
 (2) Maximum Contaminant Level established by U.S. EPA/CDPH  
 (3) Public Health Goal established by California Office of Environmental Health Hazard Assessment.  
 (4) Maximum Contaminant Level Goal established by the Environmental Protection Agency.  
 (5) Sunnyvale Municipal Wells (groundwater).  
 (6) Santa Clara Valley Water District (Rinconada Water Treatment Plant).  
 (7) San Francisco Water Department (Hetch-Hetchy).  
 (8) Turbidity is the water clarity indicator and standards are set per TT or Source Water Type.  
 (9) The turbidity standard for unfiltered water supplies is 5 NTU.  
 (10) Filtered water turbidity must be less than 0.3 NTU 95% of the time. The SFPUC and SCVWD met this standard 100 % of the time.  
 (11) This is a single, maximum measurement. The elevated turbidity was caused by the startup of the Hetch-Hetchy Aqueduct after shutdown for maintenance work. Turbid water was not served to customers.  
 (12) This is the minimum percentage of time that the filtered water turbidity was equal to or less than 0.3 NTU.  
 (13) 4-Quarter running average of TTHMs and HAA5 in Sunnyvale's water supply system.  
 (14) The SFPUC adds fluoride to the naturally occurring level to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.8-1.5 ppm, as required by CDPH regulations.  
 (15) Federal MCLG is 10 mg/L for Nitrate as Nitrogen.  
 (16) Effective 6/11/06 the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to total body or any internal organ. 50pCi/L is used as a screening level.  
 (17) Action Level (AL). The 90th percentile of lead or copper must be below the action level.  
 (18) In 2007, 1 out of 52 residences were over the action level.  
 (19) In 2007, 1 out of 52 residences were over the action level.  
 (20) Coliform by Absence/Presence Method.

**Abbreviations and Units**

NTU = Nephelometric Turbidity Unit  
 NS = No Standard  
 ND = None Detected  
 N/A = Not Available  
 ppm = parts per million (milligrams per liter)  
 µS/cm = MicroSiemens/centimeter  
 pCi/L = picoCuries/liter (a measure of radioactivity)  
 % pos = % positive  
 ppb = parts per billion (micrograms per liter)  
 MFL = Million fibers per liter  
 MRDL = Maximum Residual Disinfectant Level  
 MRDLG= Maximum Residual Disinfectant Level Goal  
 AL = Regulatory Action Level  
 TT = Treatment Technique  
 DLR= Deltacion Level Reporting  
 PDWS= Primary Drinking Water Standard  
 PHG= Public Health Goal  
 MCL = Maximum Contaminant Level  
 MCLG= Maximum Contaminant Level Goal  
 TOC= Total Organic Compounds

**ADDITIONAL COMMENTS OR NOTATIONS.**

In accordance with CDPH regulations, in 2007 the SCVWD monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, contact the District at (408) 265- 2600 or visit their web site at www.scvwd.dst.ca.us.  
 In accordance with CDPH regulations, in 2007 SFPUC monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, call the SFPUC Water Quality Bureau at (650) 972-5950 or visit their web page at www.ci.sf.ca.us/puc.  
 In accordance with CDPH regulations, in 2007 the City of Sunnyvale monitored water quality for its source water supplies, and in all cases has met the required limits. For some contaminants the State allows us to monitor less than once per year due to the fact that these contaminants do not change frequently.

## IMPORTANT DEFINITIONS FOR UNDERSTANDING THIS REPORT:

**Maximum Contaminant Level (MCL):** The Highest level of contaminant that is allowed in drinking water. Primary MCLs are set as close to 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 contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** The level of disinfectant added to for water treatment that may not be exceeded at the consumers tap.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

**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.

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

**Regulatory Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

**Waiver:** State permission to decrease the monitoring frequency for a particular contaminant



## INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM

The City has completed a Drinking Water Source Assessment Program (DWSAP) for the groundwater sources. The DWSAP was completed in January 2003, and submitted to the California Department of Public Health at that time. A copy of the DWSAP may be viewed by appointment at the City's Corporation Yard, 221 Commercial St., Sunnyvale. You may request a summary of the individual assessments by contacting the Water Utility Program at (408) 730-7510. The City's groundwater sources are considered most vulnerable to contamination by leaky underground tanks containing fuel or dry-cleaning chemicals, sewer collection systems, old septic systems, and machine shops. The City owns and operates nine (9) deep wells, and no contaminants were detected in the 2007 test results. A summary of the City's DWSAP can be found at <http://swap.ice.ucdavis.edu/tsinfo/tsintro.asp>.

### CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

In order to ensure that tap water is safe to drink, 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

**Microbial Contaminants:** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Cryptosporidium and Giardia are parasitic microbes found in most surface-water supplies that can pose a potential health threat. If any of these microbes is ingested, symptoms may include diarrhea, stomach cramps, upset stomach, and slight fever. People with severely weakened immune systems, such as those identified previously, are likely to have more severe and persistent symptoms than healthy individuals, including complications that can become life-threatening. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

The SFPUC and the SCVWD regularly test for Cryptosporidium and Giardia in both source and treated water supplies serving the East Bay, South Bay, and San Francisco Peninsula. Both Cryptosporidium and Giardia have occasionally been found at very low levels. Current test methods do not allow us to determine with certainty if the microbes are dead or if they are capable of infecting humans.

**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.

**Organic Chemical Contaminants:** including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.

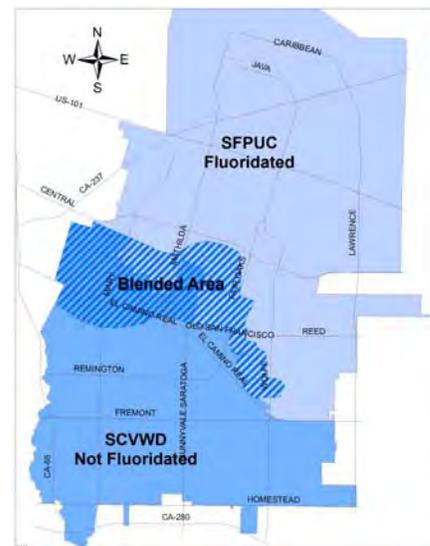
**Radioactive Contaminants:** that can be naturally-occurring or the result of oil and gas production and mining activities.

**Pesticides and Herbicides:** that may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

**Nitrate:** nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin.

Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask for advice from your health care provider.

**Radon:** Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, you can arrange for inexpensive and easy air quality testing. If the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher, you should fix the problem. For additional information, contact the State radon program or call EPA's Radon Hotline at (800) SOS-RADON.



### PUBLIC PARTICIPATION

If you are interested in providing input on decisions that affect drinking water quality, any member of the public can speak on any issue specifically coming before the Council at a regularly scheduled City Council meeting, or on any topic you wish to bring to the Council's attention under the Citizens to be Heard portion of the agenda. You also can send a letter in advance of a meeting. City Council meetings are held Tuesday nights at 7:00 p.m. in the City Hall Council Chambers, 456 W. Olive Ave., Sunnyvale. A list of City Council meetings, agenda items, and study issues is available on the City's Web site at [www.sunnyvale.ca.gov](http://www.sunnyvale.ca.gov) or by calling the City Clerk's office at (408) 730-7483.



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Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, is more stable than chlorine and offers a number of health benefits. Chloramine lasts longer in water to provide more protection against pathogens such as bacteria and viruses, and produces lower levels of disinfection byproducts such as trihalomethanes (THMs). State and federal regulations effective January 2002 lowered the allowable level of exposure to disinfection byproducts. The water provided by SFPUC and SCVWD is disinfected with chloramines which can affect dialysis treatment. The City maintains contact with dialysis treatment centers in the City. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Transspecific Network for Dialysis at (415) 331-1545 can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

## HEALTH 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 U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at (800) 426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as those undergoing chemotherapy or 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 from their health care providers about drinking water.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. 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.

## FLUORIDATION

The SFPUC completed construction on the new, system-wide fluoridation facility in 2005. Beginning November 2005 all water from the SFPUC is fluoridated. However, the City's other wholesale water provider (SCVWD) has no plans to fluoridate its water, and the City does not fluoridate well water. As a result, some areas of Sunnyvale receive fluoridated water, other areas receive non-fluoridated water, and some areas receive a mixture of fluoridated and non-fluoridated water. An explanation and a map showing the different areas were sent to all customers. This information is also available on the City's website. If you would like more information please contact the Water Program at (408) 730-7510.

## IMPORTANT CONTACTS

*Informed consumers are our best allies in maintaining safe drinking water. If you are interested in water information and decisions being made relative to new regulations, information is available on the Internet.*

### Water Quality

**7 a.m. - 4:30 p.m.**

(408) 730-7510

### Utility Billing

**8 a.m. - 5 p.m.**

Residential (408) 730-7400  
Commercial (408) 730-7681

### Backflow and Cross Connection Control Program

**7 a.m. - 4:30 p.m.**

(408) 730-7574

### TDD

(408) 730-7501

### City of Sunnyvale

[www.sunnyvale.ca.gov](http://www.sunnyvale.ca.gov)

### California Dept. of Public Health (CDPH)

[www.cdph.ca.gov](http://www.cdph.ca.gov)

### U.S. Environmental Protection Agency (EPA)

(800) 426-4791

[www.epa.gov/ogwdw/](http://www.epa.gov/ogwdw/)

### Dept. of Water Resources (DWR)

[www.dwr.water.ca.gov/](http://www.dwr.water.ca.gov/)

To learn more about emergency preparedness for yourself and your family, visit [www.oes.insunnyvale.com](http://www.oes.insunnyvale.com)

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

这份有关你的食水报告,内有重要资料和讯息他人为你翻译及解释清楚。

Chi tiet này thật quan trọng.  
Xin nhờ người dịch cho quý vị.

# 2008 Water Quality Test Results for Water Provided by the City of Sunnyvale<sup>(1)</sup>

ALL RESULTS MET STATE AND FEDERAL WATER REGULATIONS

## How to Read this Chart

The first column, labeled "Standards," lists the standards for various water quality parameters and contaminants. The second column, labeled "Water Test Results," shows the range of concentrations in water quality samples taken during 2008, as well as the average concentration. This data is shown for the three sources of Sunnyvale's water: ground water (wells) and imported surface water from the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). To evaluate test results, compare the standards with the actual measured concentrations listed under "Water Test Results." The final column describes where contaminants may originate. In most cases, the specific source of a contaminant is not known. Any contaminants below detection limits such as arsenic, MTBE, etc., are not listed on the chart.

STANDARDS				WATER TEST RESULTS				TYPICAL SOURCES IN DRINKING WATER		
<b>Primary Standards - Mandatory Health Related Standards</b>										
Parameter	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Sunnyvale Ground (Well) Water <sup>(5)</sup>		Imported Surface Waters				
						SCVWD <sup>(6)</sup>		SFPUC <sup>(7)</sup>		
				Range	Avg.	Range	Avg.	Range	Avg.	
<b>CLARITY</b>										
Turbidity <sup>(8)(9)</sup>	NTU	5 <sup>(9)</sup>	NS	0.10 - 2.20	0.55	0.06 - 0.08	0.07	0.06 - 0.30	0.15	Soil runoff.
<b>Disinfection Byproducts, Residuals, Precursors</b>										
Total Trihalomethanes (TTHM)	ppb	80	NA	ND - ND	ND	44 - 74	57	8 - 48	31	By-product of drinking water chlorination.
Total Haloacetic Acids (HAA5)	ppb	60	NA	NA - NA	NA	13 - 34	19	4 - 26	17	By-product of drinking water chlorination.
TOC (precursor control)	ppm	TT	NA	NA - NA	NA	1.32 - 3.51	2.25	2.2 - 2.8	2.5	Various natural and man-made sources
<b>INORGANIC CHEMICALS</b>										
Barium	ppm	1	2	<1 - 0.15	0.10	ND - ND	ND	NA - NA	NA	Erosion of natural deposits.
Fluoride <sup>(12)</sup>	ppm	2	1	0.1 - 0.2	0.1	ND - 0.1	0.1	<0.1 - 0.8	0.2	Erosion of natural deposits. Water additive that promotes strong teeth.
Nitrate + Nitrite as N	ppm	10	10	2.3 - 7.4	4.5	NA - NA	NA	NA - NA	NA	Runoff and leaching from fertilizer use. Erosion of natural deposits.
Nitrate as NO <sub>3</sub> <sup>(13)</sup>	ppm	45 (as nitrate) 10 (as nitrogen)	45 (as nitrate) 10 (as nitrogen)	9.7 - 35.4	17.9	ND - 5	5	NA - NA	NA	Runoff and leaching from fertilizer use. Erosion of natural deposits. <i>Health Note: Infants below the age of six months who drink water containing nitrate in excess of the MCL may become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blueness of the skin.</i>
<b>MICROBIOLOGY</b>										
Giardia Lamblia	cyst/L	TT	[0]	NA - NA	NA	NA - NA	NA	ND - 0.03	0.03	Naturally present in the environment
Cryptosporidium	Oocysts/L	TT	[0]	NA - NA	NA	ND - 0.1	ND	NA - NA	NA	Naturally present in the environment
<b>RADIONUCLIDES</b>										
Radon	pCi/L	NA	NA	280 - 530	396	NA - NA	NA	NA - NA	NA	Erosion of natural deposits
<b>Secondary Standards - Aesthetic Standards</b>										
Parameter	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Sunnyvale Ground (Well) Water <sup>(5)</sup>		Imported Surface Waters				
						SCVWD <sup>(6)</sup>		SFPUC <sup>(7)</sup>		
				Range	Avg.	Range	Avg.	Range	Avg.	
<b>PHYSICAL PARAMETERS</b>										
Chloride	ppm	500	NA	31 - 72	47.7	42 - 86	63	4 - 15	10	Runoff/leaching from natural deposits; seawater influence.
Color	Units	15	NA	<3 - 5	1.71	<2.5 - <2.5	<2.5	NA - NA	NA	Naturally-occurring organic materials.
Odor - Threshold	T.O.N.	3	NA	1.0 - 1.0	1.0	1 - 1	1	NA - NA	NA	Naturally-occurring organic materials.
Specific Conductance	uS/cm	1600	NA	577 - 839	684	485 - 604	525	31 - 288	164	Substances that form ions when in water; seawater influence.
Sulfate	ppm	500	NA	21 - 40	34	48.9 - 65.5	55.6	1.0 - 34.9	16.4	Runoff/leaching from natural deposits; industrial wastes.
Total Dissolved Solids	ppm	1000	NA	400 - 512	433	262 - 320	294	39 - 203	111	Runoff/leaching from natural deposits.
<b>ADDITIONAL CONSTITUENTS</b>										
Bicarbonate Alkalinity (as CaCO <sub>3</sub> )	ppm	NS	NA	NA - NA	NA	79 - 91	85	NA - NA	NA	
Bromide	ppm	NS	NA	NA - NA	NA	<0.5 - 0.11	0.08	NA - NA	NA	
Calcium	ppm	NA	NA	64 - 98	83	21 - 27	23	3 - 26	13	
Calcium as CaCO <sub>3</sub>	ppm	NS	NA	NA - NA	NA	52 - 69	58	NA - NA	NA	
Chlorate	ppb	NS	NA	NA - NA	NA	127 - 180	154	49 - 224	155 <sup>(10)</sup>	
Free Ammonia	ppm	NS	NA	NA - NA	NA	0.09 - 0.14	0.12	NA - NA	NA	
Hardness (as CaCO <sub>3</sub> )	ppm	NS	NA	264 - 364	312	102 - 123	111	14 - 100	54	
Magnesium	ppm	NA	NA	20 - 33	26	13 - 16	15	0.2 - 9	4.9	
pH	Units	NS	NA	7.5 - 7.8	7.7	7.6 - 7.7	7.6	8.5 - 9.2	8.8	
Phosphate	ppm	NS	N/S	NA - NA	NA	1 - 1	1	NA - NA	NA	
Potassium	ppm	NA	NA	1.2 - 1.6	1.4	2.9 - 3.6	3.1	<0.2 - 1.2	0.6	
Silica	ppm	NA	NA	NA - NA	NA	11 - 14	13	5.0 - 7.7	5.4	
Sodium	ppm	NA	NA	22 - 39	29	45 - 77	60	3 - 20	13	
Temperature	Deg. C	NS	NA	12 - 19	16	13 - 21	17	NA - NA	NA	
Total Alkalinity (as CaCO <sub>3</sub> )	ppm	NS	NA	218 - 274	244	79 - 91	85	10 - 96	50	
Total Ammonia	ppm	NS	NA	NA - NA	NA	0.47 - 0.50	0.49	NA - NA	NA	
<b>UCMR 1 + UCMR 2 Federal Regulated Constituents</b>										
N-nitrosodimethylamine (NDMA)	ppb	N/S	N/S	ND - 0.004	0.00025	NA - NA	NA	NA - NA	NA	
Perchlorate	ppb	6	6	<4 - 4.4	0.6	NA - NA	NA	NA - NA	NA	Substances used in solid rocket propellant, fireworks, explosives, flares, matches, and a variety of industries
<b>UNREGULATED CONTAMINANTS</b>										
Boron (1000ppb notification level)	ppb	NS	NA	0.14 - 0.20	0.20	132 - 181	161	NA - NA	NA	
Chromium VI (Hexavalent Chromium)	ppb	NA	NA	ND - 3.10	1.4	ND - ND	ND	NA - NA	NA	
Naphthalene	ppb	NS	NA	ND - 0.54	ND	NA - NA	NA	NA - NA	NA	
1,2,3 trichlorobenzene	ppb	NS	NA	ND - 0.71	ND	NA - NA	NA	NA - NA	NA	
Vanadium	ppb	NS	NA	NA - NA	NA	ND - 4	4	NA - NA	NA	
<b>SUNNYVALE DISTRIBUTION SYSTEM</b>										
	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Range	90th Percentile	Typical Sources in Drinking Water				
<b>LEAD AND COPPER RULE STUDY-latest 2007</b>										
Copper - City of Sunnyvale (1 out of 52 sites above AL)	ppm	AL=1.3 <sup>(14)</sup>	0.3	ND - 1.38	0.151	Corrosion of household plumbing systems.				
Lead - City of Sunnyvale (1 out of 52 sites above AL)	ppb	AL=15 <sup>(14)</sup>	2	ND - 32	2	Corrosion of household plumbing systems.				
	Unit	MCL <sup>(2)</sup>	PHG <sup>(3)</sup> [MCLG] <sup>(4)</sup>	Range	Avg.	Typical Sources in Drinking Water				
<b>DISINFECTION BYPRODUCTS</b>										
Disinfectant residual -chlorine	ppm	MRDL = 4 (as Cl <sub>2</sub> )	MRDLG = 4 (as Cl <sub>2</sub> )	ND - 3.1	1.89	Disinfectant added for treatment.				
Total Haloacetic Acids (HAA5) <sup>(11)</sup>	ppb	60	NA	ND - 32.0	20.5	By-product of drinking water chlorination.				
Total Trihalomethanes <sup>(11)</sup>	ppb	80	NA	ND - 74.2	50.6	By-product of drinking water chlorination.				
<b>MICROBIOLOGICAL</b>										
Total Coliform Bacteria, highest % of positives detected in any month <sup>(15)</sup>	% Pos	≤ 5.0	[0]	0 - 0.52	0.125	Naturally present in the environment.				
<b>Footnotes:</b>										
(1) Set forth in 40 CFR Part 141 and 142 National Primary Drinking Water Regulation and California Code of Regulations, Title 22, Section 116470.					<b>Abbreviations and Units</b>					
(2) Maximum Contaminant Level established by U.S. EPA/CDPH					NTU = Nephelometric Turbidity Unit					
(3) Public Health Goal established by California Office of Environmental Health Hazard Assessment.					NS = No Standard					
(4) Maximum Contaminant Level Goal established by the Environmental Protection Agency.					ND = None Detected					
(5) Sunnyvale Municipal Wells (groundwater).					NA = Not Available					
(6) Santa Clara Valley Water District (Rinconada Water Treatment Plant).					ppm = parts per million (milligrams per liter)					
(7) San Francisco Water Department (Hetch-Hetchy).					µS/cm = MicroSiemens/centimeter					
(8) Turbidity is the water clarity indicator and standards are set per TT or Source Water Type.					pCi/L = picoCuries/liter (a measure of radioactivity)					
(9) Filtered water turbidity must be less than 0.3 NTU 95% of the time. The SFPUC and SCVWD met this standard 100% of the time.					% pos = % positive					
(10) There were no chlorate detected in the raw water sources. The detected chlorate in treated water is a byproduct of the degradation of sodium hypochlorite, the primary disinfection used by SFPUC for water disinfection.					MFL = Million fibers per liter					
(11) 4-Quarter running average of TTHMs and HAA5 in Sunnyvale's water supply system.					MRDL = Maximum Residual Disinfectant Level					
(12) The SFPUC adds fluoride to the naturally occurring level to help prevent dental caries in consumers. The fluoride levels in the treated water are maintained within a range of 0.8-1.5 ppm, as required by CDPH regulations.					MRDLG= Maximum Residual Disinfectant Level Goal					
(13) Federal MCLG is 10 mg/L for Nitrate as Nitrogen.					RAL = Regulatory Action Level					
(14) Action Level (AL). The 90th percentile of lead or copper must be below the action level.					TT = Treatment Technique					
(15) Coliform by Absence/Presence Method.					DLR= Detection Level Reporting					
					PDWS= Primary Drinking Water Standard					
					PHG= Public Health Goal					
					MCL = Maximum Contaminant Level					
					MCLG = Maximum Contaminant Level Goal					
					TOC= Total Organic Compounds					
<b>ADDITIONAL COMMENTS OR NOTATIONS.</b>										
In accordance with CDPH regulations, in 2008 the SCVWD monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, contact the District at (408) 265-2600 or visit their web site at www.scvwd.dst.ca.us.										
In accordance with CDPH regulations, in 2008 SFPUC monitored water quality for both source and treated water supplies, and in all cases has met the required limits. For additional information, call the SFPUC Water Quality Bureau at (850) 972-5950 or visit their web page at www.ci.sf.ca.us/puc.										
In accordance with CDPH regulations, in 2008 the City of Sunnyvale monitored water quality for its source water supplies, and in all cases has met the required limits. For some contaminants the State allows us to monitor less than once per year due to the fact that these contaminants do not change frequently.										

## IMPORTANT DEFINITIONS FOR UNDERSTANDING THIS REPORT:

**Maximum Contaminant Level (MCL):** The Highest level of contaminant that is allowed in drinking water. Primary MCLs are set as close to 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 contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** The level of disinfectant added to for water treatment that may not be exceeded at the consumers tap.

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

**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.

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

**Regulatory Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

**Waiver:** State permission to decrease the monitoring frequency for a particular contaminant

## INFORMATION ABOUT THE DRINKING WATER SOURCE ASSESSMENT PROGRAM

The City has completed a Drinking Water Source Assessment Program (DWSAP) for the groundwater sources. The DWSAP was completed in January 2003, and submitted to the California Department of Public Health at that time. A copy of the DWSAP may be viewed by appointment at the City's Corporation Yard, 221 Commercial St., Sunnyvale. You may request a summary of the individual assessments by contacting the Water Utility Program at (408) 730-7510. The City's groundwater sources are considered most vulnerable to contamination by leaky underground tanks containing fuel or dry-cleaning chemicals, sewer collection systems, old septic systems, and machine shops. The City owns and operates eight (8) deep wells, and no contaminants were detected in the 2008 test results. A summary of the City's DWSAP can be found at <http://swap.ice.ucdavis.edu/tsinfo/tsintro.asp>.

## CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

In order to ensure that tap water is safe to drink, 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.

**Microbial Contaminants:** such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Cryptosporidium and Giardia are parasitic microbes found in most surface-water supplies that can pose a potential health threat. If any of these microbes is ingested, symptoms may include diarrhea, stomach cramps, upset stomach, and slight fever. People with severely weakened immune systems, such as those identified previously, are likely to have more severe and persistent symptoms than healthy individuals, including complications that can become life-threatening. We encourage immuno-compromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.

The SFPUC and the SCVWD regularly test for Cryptosporidium and Giardia in both source and treated water supplies serving the East Bay, South Bay, and San Francisco Peninsula. Both Cryptosporidium and Giardia have occasionally been found at very low levels. Current test methods do not allow us to determine with certainty if the microbes are dead or if they are capable of infecting humans.

**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.

**Organic Chemical Contaminants:** including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application and septic systems.

**Radioactive Contaminants:** that can be naturally-occurring or the result of oil and gas production and mining activities.

**Pesticides and Herbicides:** that may come from a variety of sources such as agricultural, urban storm water runoff and residential uses.

**Nitrate:** Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin.

Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should ask for advice from your health care provider.

**Radon:** Radon is a radioactive gas that you can't see, taste or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, you can arrange for inexpensive and easy air quality testing. If the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher, you should fix the problem. For additional information, contact the State radon program or call EPA's Radon Hotline at (800) 745-7236.

**Violation Notice:** This notification to all of our Sunnyvale customers is being performed in compliance with the laws and regulations of the California Department of Public Health (CDPH) to keep you fully informed about your drinking water. Sunnyvale failed to comply with the bacteriological monitoring requirements specified in Sections 64424(a)(1) and 64424 (b), Chapter 15, Title 22, California Code of Regulations.

The City of Sunnyvale Laboratory reported a total coliform-positive during routine samples at sample site #55, on July 9, 2008. Laboratory staff notified Public Works staff and requested repeat samples of sample site. Public Works staff did complete the repeat sample at the original site within 24 hours, but failed to collect two more samples from downstream and upstream as required per our approved sampling plan. The repeat sample was negative, but the health effect of this procedural monitoring failure is unknown. The City of Sunnyvale has submitted a Corrective action Plan, to the CDPH that will help prevent future monitoring failures.

## PUBLIC PARTICIPATION

If you are interested in providing input on decisions that affect drinking water quality, any member of the public can speak on any issue specifically coming before the Council at a regularly scheduled City Council meeting, or on any topic you wish to bring to the Council's attention under the Citizens to be Heard portion of the agenda. You also can send a letter in advance of a meeting. City Council meetings are held Tuesday nights at 7:00 p.m. in the City Hall Council Chambers, 456 W. Olive Ave., Sunnyvale. A list of City Council meetings, agenda items, and study issues is available on the City's Web site at [www.sunnyvale.ca.gov](http://www.sunnyvale.ca.gov) or by calling the City Clerk's office at (408) 730-7483.



## IMPORTANT CONTACT INFORMATION

### CITY CONTACTS

#### City of Sunnyvale

456 West Olive Avenue  
Sunnyvale, CA 94086  
Tel: (408) 730-7415  
TDD: (408) 730-7501  
Fax: (408) 747-1139  
www.sunnyvale.ca.gov

#### Hours of Operation: 8 am to 5 pm

**Field Services (Leaks,  
Breaks, and Water Quality  
Questions)**  
(408) 730-7510

**Utility Division (Billing)**  
(408) 730-7400, Residential  
(408) 730-7681, Commercial

**Backflow and Cross  
Connection Control Program**  
(408) 730-7574

**Water Conservation Hotline  
(SCVWD)**  
(408) 265-2607, ext. 2554

### WEB RESOURCES

**California Department of  
Public Health**  
www.cdph.ca.gov

**US Environmental  
Protection Agency**  
www.epa.gov/ogwdw

**Department of  
Water Resources**  
www.dwr.water.ca.gov

**Emergency  
Preparedness**  
www.ready.gov

**Bay Area Water Supply and  
Conservation Agency**  
www.bawsca.org

**American Water Works  
Association**  
www.awwa.com  
www.DrinkTap.org

### TO GET INVOLVED

To provide input on decisions that affect drinking water quality, you are welcome to speak on any issue specifically coming before the City Council at a regularly scheduled council meeting. You can also speak on any topic you wish to bring to the Council's attention during the "Citizens to be Heard" portion of the meeting agenda. Alternatively, you can send a letter in advance of a meeting.

#### City Council Meetings

City Hall Council Chambers  
456 West Olive Avenue  
Sunnyvale, California  
Tuesdays, 7 pm

A list of City Council meetings, agenda items, and study issues can be obtained by calling the City Clerk's office at (408) 730-7483 or by visiting our website at www.sunnyvale.ca.gov.



## HEALTH & EDUCATION 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 USEPA Safe Drinking Water Hotline.

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 from their health care providers.

USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline.

**USEPA Safe Drinking Water Hotline ►**  
(800) 426-4791

**This report contains important information about your drinking water. Translate it, or speak with someone who understands it.**

**Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.**

**Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.**

**Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.**

**यह सूचना महत्वपूर्ण है ।  
कृपा करके किसी से :सका अनुवाद करायें ।**

**此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。**



### ABOUT THIS REPORT

This brochure describes the quality of your water. Included are details about where your water comes from, what it contains, and how it compares to state and federal drinking water standards.

## Last year your tap water met all state and federal drinking water health standards

The City of Sunnyvale aims to provide superior service while delivering a reliable, high quality drinking water supply to our customers. Last year, your tap water met all state and federal drinking water health standards. The City vigilantly safeguards its water supplies, and once again we are proud to report that our system has met and/or exceeded water quality standards.

**INSIDE: Important information about your water ►**

# Protecting your water supply

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 provide the same protection for public health.

Protecting the water supply is important to ensure that water is safe from contamination and aesthetically pleasing for use. Protection begins in the watersheds, where people and their activities can be a major cause of source contamination. Contamination requires additional treatment, which increases the cost to deliver water to your tap.

Understanding that drinking water—including bottled water—may reasonably be expected to contain at least minute amounts of contaminants will help you make an informed choice about your drinking water. The presence of contaminants does not necessarily indicate a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. 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. 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 agricultural, 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.

Participating in public meetings and forums regarding water issues enables decision makers to hear your perspective and allows you to be directly involved in protecting your water supply.



## Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCVWD), and treated surface water from San Francisco Public Utilities Commission (SFPUC). About a dozen pocket areas in Sunnyvale receive water from the California Water Service Company (Cal Water); questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

### Local Groundwater

The City owns, operates, and maintains eight deep wells. The wells are used to help supplement the imported water supplies during peak demands in the summer months and emergency situations. The City is currently completing an improvement project that will increase flexibility in using local groundwater supplies to enhance water quality, reduce operating costs, and increase reliability. Other groundwater improvements include electrical upgrades and installation of an emergency generator. Groundwater pumped from these wells is taxed by SCVWD.

The City completed a Drinking Water Source Assessment Program (DWSAP) in January 2003 for these groundwater sources. The City's groundwater sources are considered most vulnerable to

contamination by leaky underground fuel tanks, dry cleaning chemicals, sewer collection systems, old septic systems, and machine shops.

### SFPUC Supply

The City purchases a blend of Hetch Hetchy water and treated water from SFPUC to serve the northern part of the City. Filtered water turbidity from SFPUC must be less than 0.3 NTU 95% of the time. This standard was met 100% of the time.

The Hetch Hetchy Watershed provides most of the SFPUC water supply, with supplementation by local watersheds in Alameda and Santa Clara Counties. The major water source originates from spring snowmelt flowing down the Tuolumne River and is stored in the Hetch Hetchy Reservoir. Since this water source meets all federal and state standards for watershed protection,

disinfection treatment practices, bacteriological quality monitoring, and operations, the State has granted this water source a filtration exemption.

The Alameda Watershed spans more than 35,000 acres in Alameda and Santa Clara Counties. Surface water from rainfall and runoff is collected in the Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated. Fluoridation, chloramination, and corrosion control treatment are provided for the combined Hetch Hetchy and treated water. Fluoride is added to the naturally occurring level to help protect against tooth decay in consumers. The fluoride levels in the treated water are maintained within a range of 0.8–1.5 mg/L as required by CDPH.

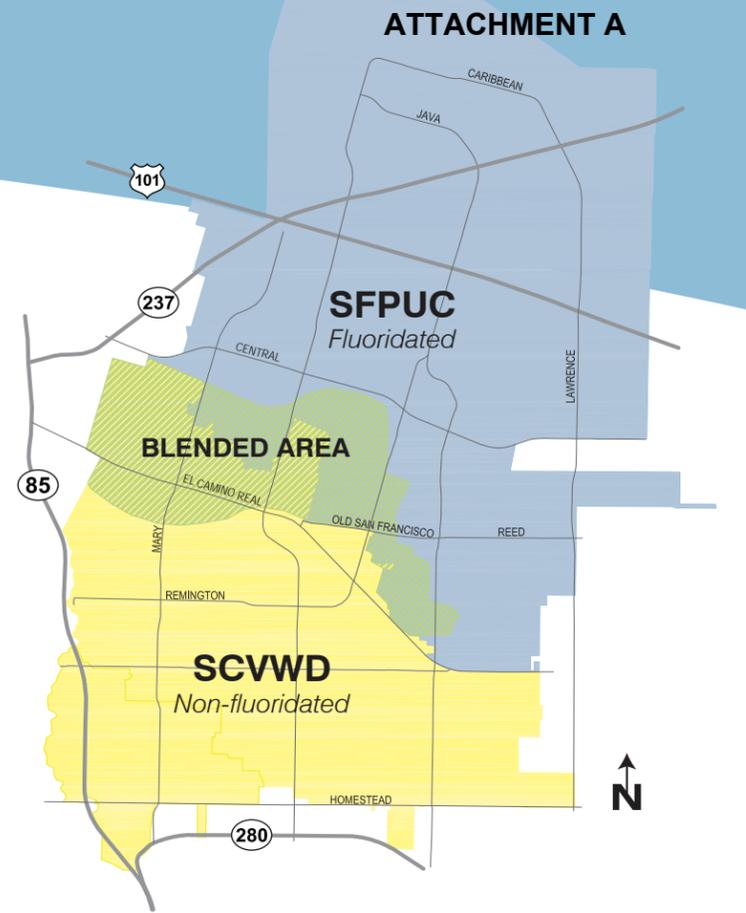
An annual report on the Hetch Hetchy Watershed and neighboring watersheds reflects the evaluation of their sanitary conditions, water quality, and potential contamination sources. The report also presents performance

results of watershed management activities implemented by SFPUC and partner agencies to reduce or eliminate potential contamination sources. The 2008 sanitary survey concluded that very low levels of contaminants associated with wildlife and human activities exist in these watersheds. The survey is available through the CDPH San Francisco District office.

**More information on SFPUC** ▶  
Visit <http://sfwater.org>

### SCVWD Supply

The City purchases treated surface water from SCVWD and delivers it to the southern portion of the City. SCVWD imports more than half of its supply from the South Bay Aqueduct, Lake Del Valle, and San Luis Reservoir, which all draw water from the Sacramento-San Joaquin Delta Watershed. SCVWD local surface water sources include Anderson and Calero Reservoirs. SCVWD source waters are vulnerable to potential contamination from a



variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. Imported sources are vulnerable to wastewater treatment plant discharges, seawater intrusion, and wildfires in watershed areas. Local sources are additionally vulnerable to contamination from

commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD treated water. Water treatment plants provide multiple barriers for physical removal and disinfection of contaminants.

**More information on SCVWD** ▶  
Visit <http://www.valleywater.org>

## INVESTING TO PROTECT YOUR WATER: SUNNYVALE WORKS!



The City has invested over \$3.6 million in water and sewer utilities projects through the *Sunnyvale Works!* Program.

To help protect your water supply, the City of Sunnyvale is replacing and/or upgrading aging water facilities to meet current regulatory requirements. The City is accomplishing this through our very successful *Sunnyvale Works!* program.

*Sunnyvale Works!* is an innovative capital improvements acceleration and stimulus program launched by the City in April 2009. This program streamlines the process for designing, reviewing, and awarding capital improvement projects, which ultimately shortens the overall timeline for projects and significantly reduces project costs.

Program managers have been so successful in obtaining outside funding that projects have impacted the City's budget far less than expected. American Recovery and Reinvestment Act stimulus funding, Community Development Block Grants, and state gas tax funds have enabled the expansion of the *Sunnyvale Works!* program to its current \$100 million level.

On average, submitted project bids have been approximately 30 percent lower than expected. The savings have been reinvested into the program, expanding the number of projects planned or underway.

Importantly, the *Sunnyvale Works!* program is expected to create as many as 600 or more jobs within the companies that are awarded *Sunnyvale Works!* projects.

### SUNNYVALE WORKS! Water and Sewer Projects

- Wolfe/Evelyn Water Tank Painting
- Refurbishing Water Tanks at Wright Avenue
- Evaluation of Bridge and Levees
- Interior Coating of Water Tanks
- Hamilton Water Plant Improvements
- Well Connections to Transmission Line
- Water Main Replacements
- Recycled Water System Extension
- Water and Sewer SCADA Improvements

## HYDRANT AND MAIN FLUSHING

Look for signs in your neighborhood to be posted the day before flushing occurs.



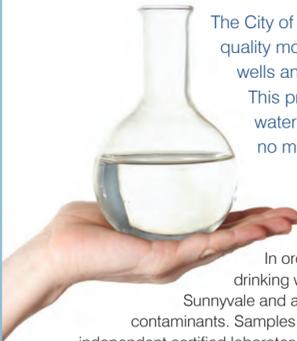
Maintenance of the potable water distribution system includes periodic flushing of hydrants and water mains. Flushing the system clears water lines of sand and sediment that may have accumulated during the year.

After hydrant flushing, your tap water may be temporarily discolored. This does not present any health hazard.

The discoloration may be removed by flushing your tap; run the water in your sink and/or shower until it runs clear.

**For more information** ▶  
Call Field Services at (408) 730-7510.

# 2009 WATER QUALITY TEST RESULTS



The City of Sunnyvale has instituted a comprehensive water quality monitoring program that encompasses City-owned wells and all water purchased from SFPUC and SCVWD. This program ensures that all of our customers receive water that complies with all regulatory criteria and that no maximum contaminant levels (MCLs) or maximum contaminant level goals (MCLGs) for regulated chemicals, bacteria, or pollutants are exceeded.

In order to ensure water quality standards are met, drinking water samples are collected daily throughout Sunnyvale and analyzed for a variety of regulated and unregulated contaminants. Samples are tested by the City's certified laboratory and an independent certified laboratory using the latest testing procedures and equipment. We collect more samples than required by the California Department of Public Health (CDPH) to provide you with the highest quality of water at all times. In addition, the City's wholesalers, SCVWD and SFPUC, conduct their own testing before delivering water to the City. Such measures help us to continue meeting established water quality standards.

The table to the right shows the results of the distribution system and source water analyses conducted by the City, SCVWD, and SFPUC. Water quality data is grouped by water source. Last year we conducted more than 20,000 tests for over 80 parameters. We detected only 11 of these parameters, and none were found at levels higher than CDPH allows.

Only the parameters detected are shown. Other constituents were analyzed but are not listed because they were not detected. Additionally, unregulated parameters are shown to provide you with supplemental information.

**For more information ►**  
For a complete list of all the chemicals analyzed, or to ask questions about this report or the City's water quality monitoring program, please contact:  
Val Conzet  
City of Sunnyvale  
Water Operations Manager  
Phone: (408) 730-7510  
TDD (408) 730-7501  
vconzet@ci.sunnyvale.ca.us

Some data—although representative—was collected prior to 2009, as the CDPH requires monitoring for some constituents less than once per year since the concentrations of these constituents do not vary frequently or significantly.

## Certified Labs and Operators

The City's Environmental Laboratory is responsible for analyzing drinking water samples to ensure compliance with Safe Drinking Water Act requirements. The City's laboratory is certified under the Environmental Laboratory Accreditation Program and conducts the majority of the required tests; however, more specialized tests are conducted by contracted certified laboratories.



The City's water system personnel are certified by CDPH and the American Water Works Association as Water Distribution Operators, Water Treatment Operators, Back Flow Prevention Assembly Testers, and/or Cross Connection Control Program Specialists.

PRIMARY DRINKING WATER STANDARDS (PUBLIC HEALTH RELATED STANDARDS)										
Parameter	Unit	MCL, (AL), or [MRDL]	PHG, (MCLG), or [MRDLG]	Groundwater Well		SCVWD		SFPUC		Typical Sources*
				Average or [Max]	Range	Average or [Max]	Range	Average or [Max]	Range	
<b>INORGANIC CHEMICALS (SOURCE WATER SAMPLING)</b>										
Aluminum	ppm	1	0.6	ND	ND	ND	ND-0.060	<0.05	<0.05-0.051	3, 4
Barium	ppm	1	2	0.11	0.09-0.12	ND	ND	ND	ND	3
Fluoride	ppm	2	1	0.15	0.13-0.19	ND	ND	0.3	<0.1-0.8	3, 5, 6
Turbidity	NTU	TT	NA	0.24	0.11-0.46	0.11	0.06-0.25	[3.87]	0.27-0.52	2
Nitrate as NO <sub>3</sub>	ppm	45	45	17	9.2-30	3	ND-6	ND	ND	3, 7, 8
<b>DISINFECTION BYPRODUCTS AND PRECURSORS (SOURCE WATER SAMPLING)</b>										
Total Trihalomethanes	ppb	80	NA			55	35-66	[33]	9-54	9
Total Haloacetic Acids	ppb	60	NA			16	11-23	[21]	5-27	9
TOC (precursor control)	ppm	TT	NA			1.78	0.99-2.38	2.7	2.3-3.2	10
<b>LEAD AND COPPER (SUNNYVALE 2007 AT-THE-TAP SAMPLING)</b>				<b>90th Percentile</b>			<b># of Samples Above AL</b>			
Lead	ppb	(15)	0.2	2			1 out of 52			
Copper	ppm	(1.3)	0.3	0.151			1 out of 52			
<b>DISINFECTION RESIDUALS AND BYPRODUCTS (DISTRIBUTION SYSTEM SAMPLING)</b>				<b>Highest Running Annual Average</b>			<b>Range</b>			
Disinfectant Residual	ppm	[4]	[4]	1.9			<0.01-3.1			
Total Trihalomethanes	ppb	80	NA	46.7			11.7-71.9			
Total Haloacetic Acids	ppb	60	NA	21			6.9-34			
<b>MICROBIOLOGICAL (DISTRIBUTION SYSTEM SAMPLING)</b>				<b>Average</b>			<b>Range</b>			
Total Coliform Bacteria	%pos / month	<5.0%	(0)	0.21			0.0-0.70			
<b>SECONDARY DRINKING WATER STANDARDS (AESTHETIC STANDARDS)</b>										
Parameter	Unit	MCL	Average	Range	Average	Range	Average	Range	Range	Sources*
Aluminum	ppb	200	ND	ND	ND	ND-60	<50	<50-51		3, 4
Chloride	ppm	500	46	35-72	100	74-134	9.5	4-14.6		11, 12, 14
Color	CU	15	ND	ND	<2.5	<2.5-<2.5	<5	<5-9		13
Iron	ppb	300	ND	ND	ND	ND	ND	ND		12, 15
Manganese	ppb	50	0.65	ND-3.9	ND	ND-64	ND	ND		12
Odor — Threshold	T.O.N.	3	1	1-1	1	1-1	ND	ND		13
Specific Conductance	µS/cm	1600	690	610-790	647	468-900	170	30-309		14, 16
Sulfate	ppm	500	34	27-39	67.1	43.5-99.5	16.6	1.1-35.6		11, 12, 15
Total Dissolved Solids	ppm	1000	405	360-450	346	242-470	92	22-168		11, 12
<b>UNREGULATED PARAMETERS</b>										
Parameter	Unit	NL	Average	Range	Average	Range	Average	Range	Range	
Boron	ppb	1000	160	110-230	186	101-294	<100	<100-102		
Chromium VI (Hexavalent Chromium)	ppb	NA	1.4	ND-3.1	ND	ND	NA	NA		
Vanadium	ppb	50	6.7	4.3-22	ND	ND-4	NA	NA		
<b>OTHER WATER QUALITY PARAMETERS</b>										
Parameter	Unit	MCL	Average	Range	Average	Range	Average	Range	Range	
Hardness (as CaCO <sub>3</sub> )	ppm	NS	298	270-320	116	83-159	55	12-108		
pH	units	NS	8.2	7.3-9.5	7.6	7.5-7.7	8.7	8.7-8.8		
Sodium	ppm	NS	28	22-40	81	58-114	14	3-23		
Temperature	°C	NS	16	11-21	18	11-24	NA	NA		

## Important information about your water quality

### Disinfection

Sunnyvale residents should know that the water in the Sunnyvale system includes water treated with chloramine and well water that is tested but not treated. Chloramine, a combination of chlorine and ammonia, is more stable than chlorine and offers a number of health benefits. Chloramine lasts longer in water to provide more protection against pathogens such as bacteria and viruses, and produces lower levels of disinfection byproducts such as trihalomethanes. State and federal regulations effective January 2002 lowered the allowable level of exposure to disinfection byproducts. The water provided by SFPUC and SCVWD is disinfected with chloramines which can affect dialysis treatment. The City maintains contact with dialysis treatment centers in the City. Residents on home dialysis should contact their physicians to discuss the impact on their treatment. The Transpacific Network for Dialysis at (415) 331-1545 can provide more information about chloramines and dialysis. Fish and aquarium owners should check with their local pet stores to make sure they are using the correct equipment for chloramine removal of any concentration.

intake (depending on type of softener used), proper maintenance/servicing requirements, and potential adverse affects on plants and landscaping. To convert hardness from ppm to grains per gallon, divide by 17.1.

### Lead

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 City 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 30 seconds to 2 minutes 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 in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

### Fluoride

The SFPUC completed construction on the new, system-wide fluoridation facility in 2005. Beginning November 2005, all water from the SFPUC is fluoridated. However, the City's other wholesale water provider (SCVWD) has no plans to fluoridate its water, and the City does not fluoridate well water. As a result, some areas of Sunnyvale receive fluoridated water, other areas receive non-fluoridated water, and some areas receive a mixture of fluoridated and non-fluoridated water. A map showing the different areas is included. If you would like more information please contact the City at (408) 730-7510.

### Nitrate

Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask for advice from your health care provider.

### Hardness

Hardness consists mainly of calcium and magnesium salts. Although it does not pose a health risk, it may be considered undesirable for other reasons. Some benefits in reducing hardness or water softening are reductions in soap usage, longer life for water heaters, and a decrease in incrustation of pipes. Some disadvantages are an increase in sodium



## HOW TO READ THIS CHART

### DEFINITIONS OF KEY TERMS

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

**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. MCLs are established by USEPA and CDPH.

**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.

**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.

**Notification Level (NL).** Notification levels are health-based advisory levels established by CDPH for chemicals in drinking water that lack maximum contaminant levels (MCLs). When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

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

**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 Office of Environmental Health Hazard Assessment.

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

**Total Organic Carbon (TOC).** TOC has no health effects. However, TOC provides a medium for the formation of disinfection byproducts including trihalomethanes and haloacetic acids. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer.

**Turbidity.** Turbidity has no health effects. It is the water clarity indicator and standards are set per TT or source water type. It is a measure of the cloudiness of the water and is monitored because it is a good indicator of water quality and the effectiveness of the filtration system. The MCL for turbidity is based on the TT. For unfiltered water, the MCL is 5.0 NTU. For filtered water, the MCL is ≤0.3 NTU 95% of the time.

**Variations and Exemptions.** CDPH permission to exceed an MCL or not comply with a treatment technique under certain conditions.

**Waiver.** State permission to decrease the monitoring frequency for a particular contaminant.

### ABBREVIATIONS

°C	Degrees Celsius
CDPH	California Department of Public Health
CU	Color unit
DLR	Detection level reporting
Max	Maximum
NA	Not available
ND	Not detected
NS	No standard
NTU	Nephelometric turbidity unit
ppb	parts per billion (micrograms per liter)
ppm	parts per million (milligrams per liter)
µS/cm	microSiemens per centimeter
% pos	% positive
SCVWD	Santa Clara Valley Water District
SFPUC	San Francisco Public Utilities Commission
TOC	Total organic carbon
T.O.N.	Threshold odor number
USEPA	United States Environmental Protection Agency

### \* TYPICAL SOURCES IN DRINKING WATER

- Naturally present in the environment
- Soil runoff
- Erosion of natural deposits
- Residue from some surface water treatment processes
- Water additive that promotes strong teeth
- Discharge from fertilizer and aluminum factories
- Runoff and leaching from fertilizer use
- Leaching from septic tanks and sewage
- By-product of drinking water disinfection
- Various natural and man-made sources
- Runoff from natural deposits
- Leaching from natural deposits
- Naturally-occurring organic materials
- Seawater influence
- Industrial wastes
- Substances that form ions when in water
- Internal corrosion of household plumbing systems
- Leaching from wood preservatives
- Discharges from industrial manufacturers
- Drinking water disinfectant added for treatment

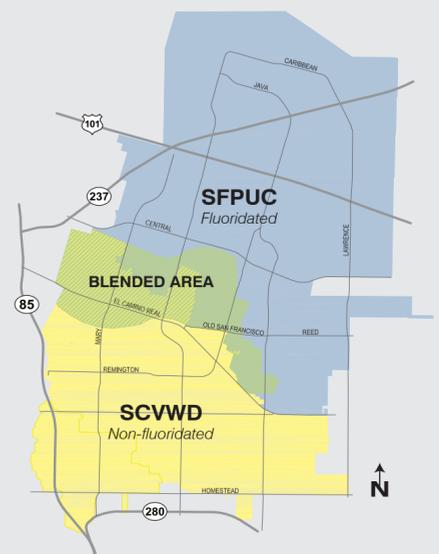
### SOURCE MAP

The adjacent map indicates which areas of the city are supplied by SFPUC, SCVWD, or a mixture of the two. The colored regions correspond to the colored columns in the table above.

Groundwater wells, which are not shown on this map, are located throughout the city. Local groundwater is blended with surface water supplies from SFPUC and SCVWD.

SFPUC water is fluoridated but SCVWD and groundwater supplies are not.

For a larger map, see reverse side.



# FACT SHEET

# Chromium-6



## Message from the CEO

On Dec. 20, 2010, the advocacy group, Environmental Working Group, released results of a study it conducted on the presence of chromium-6 in drinking water around the United States. The study included a single water sample taken from each of 35 cities around the country, including a sample from an unidentified location in San Jose. According to the study, all but four of the samples contained a measurable amount of chromium-6.

While we understand that EWG strives to call attention to the presence of chromium-6 in many water supplies all over the country, it is not known whether or not the level that was reported poses a health risk. While there is a state and federal standard for total chromium, there is currently no drinking water standard for chromium-6.

We support the process that state and federal regulators are conducting to evaluate the latest science and establish a safe drinking water standard for chromium-6 to protect public health. We are encouraged by the U.S. EPA's announcement on Dec. 22, 2010, that the agency will take immediate steps to increase monitoring and sampling programs specifically for chromium-6. The EPA is in the process of conducting a scientific peer review of the potential health risks of long-term exposure to chromium-6.

This is an essential step in the process of developing a science-based drinking water standard.

As always, the Santa Clara Valley Water District is committed to protecting public health. We actively monitor new scientific research related to drinking water standards, and we are fully engaged in the state and federal process to develop a chromium-6 drinking water standard. We will continue to provide information to the public, and to coordinate with our local retail water suppliers.

Meanwhile, we continue to provide high quality drinking water that meets or exceeds all applicable U.S. Environmental Protection Agency and California Department of Public Health regulations.

Beau Goldie  
Chief Executive Officer  
Santa Clara Valley Water District

## Questions and answers

### What is chromium-6?

Chromium-6, or hexavalent chromium, is a naturally occurring metal. It is also used in several industrial processes. There are other forms of chromium. Another form, chromium III+, is an essential nutrient for the body and is sold as a dietary supplement.

### Is there a drinking water standard for chromium-6?

No. California has had a drinking water standard of 50 parts-per-billion (ppb) for total chromium for many years, but does not yet have a standard specifically to regulate chromium-6. Chromium-6 is one component that makes up total chromium.

- California is the only state that is currently in the process of developing a drinking water standard for chromium-6.
- It may take several years before the state establishes a maximum contaminant level (MCL) for chromium-6.

### What is the safe level of chromium-6 in drinking water?

It's too early to say. State and federal regulatory agencies are studying the possible health effects of chromium-6 and will use that data to determine a drinking water standard.

### Does Santa Clara Valley Water District test for chromium-6?

We test water produced at our three drinking water treatment plants for chromium-6. To date, we have never detected chromium-6 in our treated water at the state certified reporting limit of 1 ppb. This is the lowest level of detection that is currently available for a state certified laboratory. In January 2011, our laboratory began preliminary work to achieve a lower reporting limit. In developing an advanced testing method, we conducted a round of sampling at our three treatment plants and found chromium-6 in the 0.06 to 0.09 ppb range. This lower reporting level is not yet approved, and staff will be working with the California Department of Public Health to determine the next steps in obtaining certification.

*continued on back...*

## ATTACHMENT B

### Is there a filter that will remove chromium-6?

The California Dept. of Public Health has a list of devices certified to reduce chromium levels on its website. However, the department does not specify how much reduction can be expected from each device.

### Is chromium-6 found in bottled water?

There is no chromium-6 standard for bottled water, so bottled water producers are not required to test for it. We suggest consumers contact bottled water producers directly for information about their product's water quality.

### What is the Santa Clara Valley Water District doing to address this issue?

1. We will continue to provide accurate information to the public.
2. We are coordinating with our local water retailers to respond appropriately.
3. We are actively engaged in the state and federal process to establish a science-based drinking water standard for chromium-6
4. We continue to monitor new science regarding chromium-6 and other unregulated contaminants.

As part of the California Dept. of Public Health's process of establishing a drinking water standard, some water providers all over the state were asked to test their water supplies for chromium-6. To better understand the occurrence of chromium-6 in groundwater, the water district tested wells around the county between 2001 and 2004. The median level detected in Santa Clara County was 1 ppb, and the range varied from below the 1 ppb reporting limit, up to 23 ppb.

### Does chromium-6 cause cancer?

Chromium-6 is being evaluated by federal and state regulatory agencies as a suspected carcinogen in drinking water.

### Does San Jose have one of the highest levels of chromium-6?

We don't know. Many water supplies have not been tested for it, since chromium-6 is not a regulated chemical. The recent Environmental Working Group study took single samples from each of only 35 cities in the United States, and only four cities in California. This study and other data suggest that chromium-6 is present in water supplies throughout the country. While San Jose was included in EWG's sample, we cannot conclude that San Jose has more or less chromium-6 than any other city that was not sampled.

While EWG only tested water in four California cities, the California Department of Public Health has posted on its website the results of chromium-6 monitoring tests from locations throughout California.

### Is this the chemical that was the subject of the movie, "Erin Brockovich"?

Yes, it is. In Hinkley, California, chromium-6 has been detected in wells at a level of up to 3,390 parts per billion (ppb). By comparison, the EWG study reported a level of 1.34 ppb in its San Jose sample.

### How does chromium-6 get into water supplies?

Chromium-6 can be naturally occurring in rocks and soil, so it may be present in some groundwater aquifers. It can also reach water supplies from industrial uses such as stainless steel production, metal plating, and leather tanning.

## Contact us

For more information, contact **Bruce Cabral** at **(408) 265-2607, ext. 2796**, or visit our website at [www.valleywater.org](http://www.valleywater.org) and use our **Access Valley Water** customer request and information system. With three easy steps, you can use this service to find out the latest information or to submit questions, complaints or compliments directly to a district staff person.