



Treatment Technique Violation: Failure to Meet Filtration Requirement

Due to an operational error, we failed to filter water from the San Antonio Reservoir on March 3, 2015. We promptly notified the SWRCB-DDW and advised the wholesale customers about the incident. Through immediate coordination with wholesale customers, we minimized the affected areas and purged the inadequately treated water from the system. Customers in the South Bay and Peninsula who received the blend of treated and untreated water were notified of the incident.

The operational error involved a valve that was accidentally opened which lead to untreated water from the San Antonio Reservoir entering the transmission system for approximately 20 minutes. This untreated water mixed with fully treated water from the Hetch Hetchy Aqueduct and traveled through the system for approximately 36 hours before it was discharged into Crystal Springs Reservoir. Inadequately treated surface water may contain disease-causing organisms. These organisms can cause diarrhea, nausea, cramps and associated headaches. We have been working with the SWRCB-DDW in developing measures to prevent a recurrence of such an incident in the future.

Contaminants and Regulations

Generally, the sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, 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. Such substances are called contaminants, and may be present in source water as:

- Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which 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, which can be naturally occurring or be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline **800-426-4791**, or at **www.epa.gov/safewater**.

Reducing Lead from Plumbing Fixtures

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. There are no known lead service lines in our water distribution system. We are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. It is possible that lead levels at your home may be higher than at others because of plumbing materials used in your property.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and young children are typically more vulnerable to lead in drinking water than the general population. 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 levels in your water, you may wish to have your water tested. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the USEPA's Safe Drinking Water Hotline **800-426-4791**, or at **www.epa.gov /lead**.



### Key Water Quality Terms

Following are definitions of key terms referring to standards and goals of water quality noted on the adjacent data table.

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

**Maximum 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 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 (SMCLs) are set to protect the odor, taste and appearance of drinking water.

**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.

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

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

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

**Turbidity:** A water clarity indicator that measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

*Cryptosporidium* is a parasitic microbe found in most surface water. We regularly test for this waterborne pathogen, and found it at very low levels in source water and treated water in 2015. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of *Cryptosporidium* may produce symptoms of nausea, abdominal cramps, diarrhea and associated headaches. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

**Help us keep our water delicious.**  
**Dial 650-872-5900 to report water quality issues.**

San Francisco Regional Water System - Water Quality Data for 2015

The table below lists all 2015 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits for reporting are not shown, in accord with regulatory guidance. We hold a SWRCB-DDW monitoring waiver for some contaminants and therefore their monitoring frequencies are less than annual.

DETECTED CONTAMINANTS	UNIT	MCL	PHG OR (MCLG)	RANGE OR LEVEL FOUND	AVERAGE OR [MAX]	MAJOR SOURCES IN DRINKING WATER
TURBIDITY						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.5 <sup>(1)</sup>	[3.1]	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU -	1 <sup>(2)</sup> Min 95% of samples ≤0.3 NTU <sup>(2)</sup>	N/A N/A	- 97% - 100%	[1] -	Soil runoff Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU -	1 <sup>(2)</sup> Min 95% of samples ≤0.3 NTU <sup>(2)</sup>	N/A N/A	- 100%	[0.14] -	Soil runoff Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	12 - 81	[53] <sup>(3)</sup>	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	5 - 53	[35] <sup>(3)</sup>	Byproduct of drinking water disinfection
Total Organic Carbon <sup>(4)</sup>	ppm	TT	N/A	1.4 - 5.2	2.1	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform	-	NoP ≤5.0% of monthly samples	(0)	-	[3.9%]	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	(0)	0 - 0.08	0.01	Naturally present in the environment
INORGANICS						
Fluoride (source water) <sup>(5)</sup>	ppm	2.0	1	ND - 0.8	0.3 <sup>(6)</sup>	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	0.24 - 3.2	[2.4] <sup>(7)</sup>	Drinking water disinfectant added for treatment
CONSTITUENTS WITH SECONDARY STANDARDS	UNIT	SMCL	PHG	RANGE	AVERAGE	MAJOR SOURCES OF CONTAMINANT
Chloride	ppm	500	N/A	<3 - 16	8.4	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 5	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	34 - 213	144	Substances that form ions when in water
Sulfate	ppm	500	N/A	1.2 - 30	15	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 93	54	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.3	0.1	Soil runoff
LEAD AND COPPER <sup>(8)</sup>	UNIT	AL	PHG	RANGE	90 <sup>TH</sup> PERCENTILE	MAJOR SOURCES IN DRINKING WATER
Copper	ppb	1300	300	<1 - 265	77	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1 - 41.3	3.1	Internal corrosion of household water plumbing systems
OTHER WATER QUALITY PARAMETERS	UNIT	ORL	RANGE	AVERAGE	KEY:	
Alkalinity (as CaCO <sub>3</sub> )	ppm	N/A	7 - 128	30	< / ≤ = less than / less than or equal to <b>AL</b> = Action Level <b>Max</b> = Maximum <b>Min</b> = Minimum <b>N/A</b> = Not Available <b>ND</b> = Non-Detect <b>NL</b> = Notification Level <b>NoP</b> = Number of Coliform-Positive Sample <b>NTU</b> = Nephelometric Turbidity Unit <b>ORL</b> = Other Regulatory Level <b>ppb</b> = part per billion <b>ppm</b> = part per million <b>µS/cm</b> = microSiemens / centimeter	
Boron	ppb	1000 (NL)	103	103		
Bromide	ppb	N/A	15 - 24	20		
Calcium (as Ca)	ppm	N/A	3 - 18	11		
Chlorate <sup>(9)</sup>	ppb	800 (NL)	39 - 280	157		
Hardness (as CaCO <sub>3</sub> )	ppm	N/A	13 - 65	42		
Magnesium	ppm	N/A	0.2 - 5.6	3.7		
pH	-	N/A	7.1 - 9.9	9.0		
Potassium	ppm	N/A	0.2 - 0.9	0.6		
Silica	ppm	N/A	3.7 - 5.4	4.7		
Sodium	ppm	N/A	2.9 - 19	13		

**FOOTNOTES:**  
**(1)** These are monthly average turbidity values reported every 4 hours daily. **(2)** There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems. **(3)** This is the highest locational running annual average value. **(4)** Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only. **(5)** In May 2015, the SWRCB recommended a fluoride level in the treated water be maintained at 0.7 ppm. In 2015, the range and average of the fluoride levels were 0.6 ppm - 1.0 ppm and 0.8 ppm, respectively. **(6)** The natural fluoride levels in the upcountry sources were ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the local reservoirs. **(7)** This is the highest running annual average value. **(8)** The most recent Lead and Copper Rule monitoring was in August 2015. One of the 26 site samples collected at consumer taps had lead concentration above the AL. **(9)** The detected chlorate in the treated water is a degradation product of sodium hypochlorite, which we use for water disinfection. **Note:** The different water sources blended at different ratios throughout the year have resulted in varying water quality. Contact us for additional water quality data.