



This report gives important information about your drinking water.

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

City of Brisbane and GVMID

Water Quality Report 2011

The City of Brisbane Public Works Department, in coordination with the San Francisco Public Utilities Commission (SFPUC), is pleased to present its 2011 Annual Water Quality Consumer Confidence Report. We want our customers to know where their drinking water comes from, how it is treated and maintained, the results of water quality monitoring, and other important information about water quality.

During 2011, water delivered to customers in the City of Brisbane and Guadalupe Valley Municipal Improvement District (GVMID) met all United States Environmental Protection Agency (USEPA) and California Department of Public Health (DPH) drinking water quality standards. The City of Brisbane and the SFPUC vigilantly safeguard their water supplies and are committed to providing you with safe, high-quality drinking water.

CITY OF BRISBANE AND GVMID WATER DISTRIBUTION SYSTEM

In 2011, the City of Brisbane & GVMID supplied an average of 565,000 gallons per day to our residents, businesses and landscaping in Brisbane. The City of Brisbane & GVMID receive water directly from two large SFPUC pipelines carrying water from the Hetch Hetchy system. The GVMID Water District supplies Crocker-Industrial Park and the Northeast Ridge Development, while the City of Brisbane Water District supplies the remainder of the City. The City of Brisbane & GVMID water distribution system includes 5 water storage tanks and 4 booster pump stations serving 7 pressure zones, more than 25 miles of underground pipeline and almost 700 valves, over 220 fire hydrants and over 1900 customer services. The two water districts are interconnected through various valves and pressure reducing stations. Effective operation, maintenance and monitoring of the distribution system by City staff assure that the water maintains a high quality and adequate pressure as it travels through the system to your tap.

Safeguarding Water Supply and System

Securing our water storage and pumping facilities is a top priority. The City performs routine water sampling, equipment and facility maintenance and daily security monitoring of all the critical water facilities. We inspect and test our emergency backup power generators on a monthly basis.

Water Storage Tanks Inspection and Cleaning

The inside of all the City water storage tanks are inspected and cleaned annually to ensure the internal surface condition and health of the storage facilities are maintained. The tanks are routinely sampled and monitored on a weekly basis to ensure proper levels of disinfectant are present. The exterior of the tanks are inspected daily for any signs of tampering or exterior surface damage.

Booster Pump Station Operation and Maintenance

The City continuously inspects, operates and

maintains four (4) booster pump stations that supply reliable flow and pressure to the higher elevations of the City. The City operates and maintains a SCADA (Supervisory Control and Data Acquisition) system to monitor water levels in the storage facilities, to ensure proper water pressure and to operate booster pumps that supply water to the storage facilities.

Cross Connection Control Program

The City of Brisbane and GVMID, in coordination with the San Mateo County Department of Environmental Health, operate and enforce an active cross connection control program to prevent the intrusion of potentially harmful materials into the drinking water system. Cross connection is controlled by identifying and isolating potential hazards from the drinking water supply with the installation of approved backflow prevention devices that are tested and inspected annually.

Water Main Flushing and Valve Exercising

Flushing of the water mains and exercising of the main line valves are an important part of our annual maintenance program.

City maintenance crews routinely flush fire hydrants and water mains to remove sediment and keep the distribution system refreshed. As a result, residents in the immediate vicinity may experience temporary discoloration in their water. This discoloration does not affect the safety of the water. If you experience discoloration in your water after crews have been flushing in your neighborhood, clear the water from your home pipes by running water faucets for a few minutes.

City maintenance crews routinely exercise the many mainline isolation valves throughout the City to ensure that each valve will work properly when needed in an emergency.



The Hetch Hetchy water is supplemented with surface water from

watersheds in Alameda, Santa Clara, and San Mateo Counties. **HETCH HETCHY WATERSHED** In 2011, the Hetch Hetchy Watershed, located in Yosemite National Park, provided the majority of the total water supply, with the remainder contributed by the two local watersheds. For the Hetch Hetchy Watershed, the major water source originates from spring snowmelt flowing down the Tuolumne River to the Hetch Hetchy Reservoir, where it is stored. This pristine water source is located in the well-protected Sierra region and meets all federal and state criteria for watershed protection. The SFPUC maintains stringent disinfection treatment practices, extensive bacteriological-quality monitoring, and high operational standards. As a result, the CDPH and USEPA have granted the Hetch Hetchy water source a filtration exemption. In other words, the source is so clean and protected that filtration of water from the Hetch Hetchy Reservoir is not required.

WATERSHED PROTECTION

The SFPUC actively protects the water resources entrusted to its care. Hetch Hetchy Watershed is surveyed annually to evaluate the sanitary conditions, water quality, potential contamination sources, and the results of watershed management activities conducted by SFPUC and its partner agencies (including National Park Service and US Forest Service). Once every five years the local watersheds and the approved standby water sources in Early Intake Watershed, which includes Cherry Lake and Lake Eleanor, are surveyed. The latest 5-year survey was completed in 2011 for the period of 2006-2010. These surveys identified wildlife, stock, and human activities as potential contamination sources. The reports are available for review at the CDPH San Francisco District office, 510-620-3474.

Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in Crystal Springs, San Andreas, and Pilarcitos reservoirs and treated at the Harry Tracy Water Treatment Plant.

ALAMEDA WATERSHEDS

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WHAT BRISBANE DOES TO ENSURE WATER QUALITY

The City of Brisbane and GVMID conduct comprehensive water quality distribution monitoring throughout the City's water system to ensure the proper range of disinfectant is maintained to provide protection against disease-causing organisms. In 2011, a total of 116 total chlorine residual samples were collected and tested. Samples are collected weekly from the water storage tanks and tested for specific water quality parameters. The City closely monitors the water in all the storage tanks and operational procedures are in place to quickly respond to slight changes in the water quality. In 2011, a total of 195 samples were collected and tested from the water storage tanks. Disinfection Byproducts (DBPs) are created by the disinfectant reacting with natural organic and inorganic matter in the source water and distribution system. With the conversion from chlorine to chloramines as the water disinfectant, the level of DBPs in our drinking water has dropped even further below the current and proposed regulatory limits. In 2011, Asbestos in the water was monitored in accordance with the current nine-year compliance cycle. Samples for Asbestos were collected and tested from the City of Brisbane and GVMID and both Asbestos samples were below the MCL of 7 million fibers per liter. The next monitoring of Asbestos will occur in 2020. In addition to all the monitoring performed by the City of Brisbane, the SFPUC Water Quality Division regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure that the water delivered to the City of Brisbane and GVMID meets or exceeds federal and state drinking water standards. In 2011, SFPUC Water Quality staff conducted almost 70,000 drinking water tests throughout the entire transmission and distribution systems. This monitoring effort is in addition to the extensive treatment process control monitoring.

WHERE DOES OUR WATER COME FROM?

Brisbane customers receive 100% of their water from SFPUC. The SFPUC supplies water to Brisbane from two major sources: Hetch Hetchy Watershed located in the Yosemite National Park, and local

Cryptosporidium

Cryptosporidium is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen and found it at very low levels in source water and treated water in 2011. 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. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life threatening illness and are encouraged to consult their doctor regarding appropriate precautions to take to avoid infection.

Reducing Lead from Plumbing Fixtures

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Brisbane is responsible for providing high-quality drinking water, but cannot control the variety of materials used in private plumbing components. There are no known lead service lines in the public transmission and distribution system. 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.

PUBLIC PARTICIPATION

The Brisbane City Council is the governing authority of the Brisbane and GVMID Water Systems. The City Council generally meets at 7:30 pm on the first and third Mondays of every month at the Brisbane City Hall Community Meeting Room. Please call the Brisbane City Clerk for more information. SFPUC, the governing authority of the wholesale water supplier to Brisbane, meets on the second and fourth Tuesday of the month at 1:30 pm at San Francisco City Hall, Room 400. Inquiries about the SFPUC meetings can be made by calling the Office of the Commission Secretary at (415)554-3165.

IMPORTANT DEFINITIONS FOR UNDERSTANDING THIS REPORT

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 or 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 is also used to indicate the effectiveness of the filtration plants. High turbidity can hinder the effectiveness of disinfectants.

WHAT DOES THIS TABLE MEAN?

The following table lists all 2011 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits, such as arsenic, perchlorate, MTBE, and others are not shown, in accordance with the CDPH guidance. The CDPH allows monitoring for some contaminants less than once per year because their concentrations don't change or because the CDPH has issued a monitoring waiver for certain contaminants that were absent in the water based on many years of monitoring.

CITY OF BRISBANE AND GVMID WATER QUALITY DATA FOR 2011⁽¹⁾

DETECTED CONTAMINANTS	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or (Max)	Typical Sources in Drinking Water
TURBIDITY						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.7(2)	(2.1) ⁽⁹⁾	Soil run-off
Filtered Water – from Sunol Valley WTP	NTU	1 ⁽⁴⁾	N/A		(0.36)	Soil run-off
min 95% of samples ≤ 0.3 NTU ⁽⁴⁾	%	TT	N/A	99.9%-100%	-	Soil run-off
DISINFECTION BYPRODUCTS AND PRECURSORS (SFPUC Regional System)						
Total Trihalomethanes (TTHMs)	ppb	80	N/A	10-84	(45) ⁽⁵⁾	By-product of drinking water chlorination
Total Haloacetic Acids (HAAs)	ppb	60	N/A	4-59	(33) ⁽⁵⁾	By-product of drinking water chlorination
Total Organic Carbon (TOC) ⁽⁶⁾	ppm	TT	N/A	2.6-2.9	2.7	Various natural and man-made sources
DISINFECTION BYPRODUCTS AND PRECURSORS (City of Brisbane and GVMID Distribution System)						
Total Trihalomethanes (City of Brisbane)	ppb	80	N/A	28.9 - 58.2	(49.1) ⁽⁵⁾	By-product of drinking water chlorination
Total Trihalomethanes (GVMID)	ppb	80	N/A	19.3 - 62.6	(53.7) ⁽⁵⁾	By-product of drinking water chlorination
Total Haloacetic Acids (City of Brisbane)	ppb	60	N/A	17.1 - 21.7	(19.5) ⁽⁵⁾	By-product of drinking water chlorination
Total Haloacetic Acids (GVMID)	ppb	60	N/A	13.1 - 19.3	(18.3) ⁽⁵⁾	By-product of drinking water chlorination
MICROBIOLOGICAL (City of Brisbane and GVMID Distribution System)						
Total Coliform ⁽⁷⁾ highest % of positives detected in any one month	%	NoP ≤ 5	(0)	0	(0)	Naturally present in the environment
Giardia lamblia	cyst/L	TT	(0)	ND-0.07	(0.07)	Naturally present in the environment
INORGANIC CHEMICALS						
Fluoride (source water) ⁽⁸⁾	ppm	2.0	1.0	ND - 0.8	0.3 ⁽⁹⁾	Erosion of natural deposits
Chloramine (as total chlorine) (City of Brisbane)	ppm	MRDL=4	MRDLG=4	1.60 - 2.18	1.93 ⁽⁵⁾	Disinfectant added by SFPUC for treatment
Chloramine (as total chlorine) (GVMID) treatment	ppm	MRDL=4	MRDLG=4	1.50 - 2.28	1.93 ⁽⁵⁾	Disinfectant added by SFPUC for
RADIONUCLIDES						
Radium – 226	pCi/L	N/A	0.05	ND - 1.2	<1	Erosion of natural deposits
CONSTITUENTS WITH SECONDARY STANDARDS						
	Unit	SMCL	PHG	Range	Average	
Aluminum ⁽¹⁰⁾	ppb	200	600	ND - 53	<50	Erosion of natural deposits
Chloride	ppm	500	N/A	3 - 20	11	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 9	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	39 - 289	181	Substances that form ions when in water
Sulfate	ppm	500	N/A	1.3 - 36	18	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	83 - 194	132	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.06 - 0.35	0.16	Soil runoff
LEAD AND COPPER⁽¹¹⁾						
	Unit	AL	PHG	Range	90th Percentile	
Copper (Brisbane) - August 2010	ppb	1300	300	0 - 154.0	114.0	Corrosion of household plumbing systems
Copper (GVMID) - August 2010	ppb	1300	300	28.8 - 112.0	69.0	Corrosion of household plumbing systems
Lead (Brisbane) - August 2010	ppb	15	2	0 - 14.0	3.7	Corrosion of household plumbing systems
Lead (GVMID) - August 2010	ppb	15	2	0 - 3.9	1.2	Corrosion of household plumbing systems

Key:

</≤	= less than/less than or equal to	AL	= Action Level
ppb	= parts per billion	NL	= Notification Level
ppm	= parts per million	N/A	= Not Available
NTU	= Nephelometric Turbidity Unit	ORL	= Other Regulatory Level
µS/cm	= microSiemens/centimeter	Max	= Maximum
cyst/L	= # cysts/liter	Min	= Minimum
NoP	= # of Coliform-Positive Samples	ND	= Non-detect
pCi/L	= picocuries per liter		

OTHER WATER QUALITY PARAMETERS

	Unit	ORL	Range	Average
Alkalinity (as CaCO ₃)	ppm	N/A	10 - 84	49.0
Calcium (as Ca)	ppm	N/A	3 - 24	13.0
Chlorate ⁽¹²⁾	ppb	(800)NL	36 - 488	89.0
Hardness (as CaCO ₃)	ppm	N/A	10 - 98	57.0
Magnesium	ppm	N/A	<0.04 - 8.2	4.9
pH	-	N/A	6.7 - 9.7	8.6
Sodium	ppm	N/A	3 - 20	13.5

NOTES:

- All results met State and Federal drinking water health standards.
- Turbidity is measured every four hours. These are monthly average turbidity values.
- This is the highest turbidity of the unfiltered water served to customers in 2011. This turbidity spike was the result of flow rate change, and it was not observed downstream at Alameda East.
- There is no MCL for turbidity. The limits are based on the TT requirements in the State drinking water regulations.
- This is the highest quarterly running annual average value.
- Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only. These are compliance data for SVWTP raw water.
- In 2011, 0 out of 53 samples collected in the City of Brisbane and 0 out of 26 samples collected in GVMID were total coliform-positive.
- The SFPUC adds fluoride to the naturally occurring level to help prevent dental caries in consumers. The CDPH requires our fluoride levels in the treated water to be maintained within a range of 0.8 - 1.5 ppm. In 2011, the range and average of our fluoride levels were 0.6 ppm - 1.3 ppm and 1.0 ppm, respectively.
- The naturally occurring fluoride levels in the Hetch Hetchy and SVWTP raw water are ND and 0.12 ppm, respectively.
- Aluminum also has an MCL of 1000 ppb.
- The most recent Lead and Copper Rule monitoring was in 2010. Zero out of 30 customers in the City of Brisbane and GVMID were over the lead Action Level at the consumer taps in 2010. The City of Brisbane and GVMID are on a reduced frequency triennial monitoring program and samples will again be collected in 2013.
- The detected chlorate in treated water is a byproduct of the degradation of sodium hypochlorite, the primary disinfectant used by SFPUC for water disinfection.

SFPUC's New UV Disinfection Facility Largest in California

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

FOR MORE INFORMATION

Additional information about the content of this report can be obtained by calling Jerry Flanagan, City of Brisbane Public Works Department, at 415-508-2130, contacting the SFPUC Water Quality Bureau at 877-737-8297, or visiting the SFPUC website at www.sfwater.org.

FEDERALLY REQUIRED GENERAL INFORMATION ABOUT DRINKING WATER

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. Such substances are called contaminants. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, the USEPA and the 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.

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 storm water 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 storm water 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 storm water 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.

More information about contaminants and potential health effects may be obtained by calling the USEPA Safe Drinking Water Hotline at (800)426-4791 or visiting www.epa.gov/safewater.

What Else Should I Know?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants, including Cryptosporidium and Giardia. The presence of small amounts of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the USEPA Safe Drinking Water Hotline.

Important Health Information

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