Santa Barbara Water
June 2008
City of Santa Barbara Annual Water Quality Report

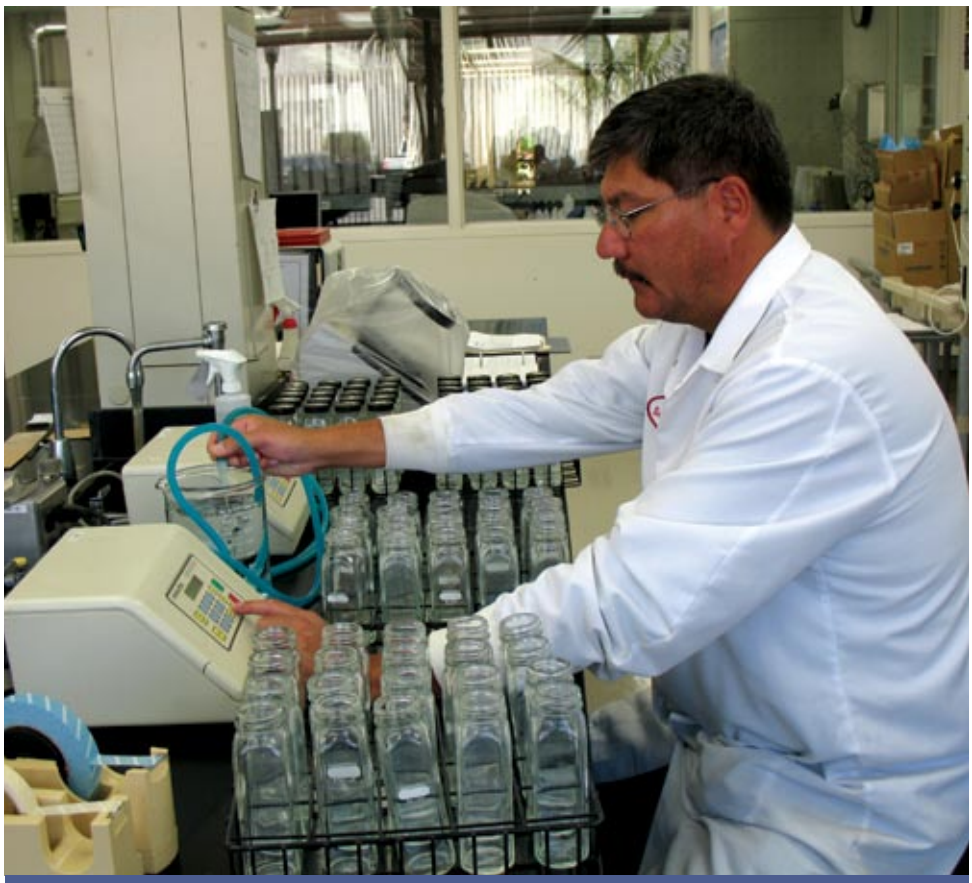
Taking Action on Water Quality Impacts from the Zaca Fire

Rains Fill Local Reservoirs

Significant rainfall this winter was a welcome relief for water supplies. However, runoff from this winter's heavy rains increased the level of nutrients and organic materials in Gibraltar Reservoir and Lake Cachuma due to the ash and debris left by the Zaca Fire. The additional organic materials make treating the water at the City's Cater Water Treatment Plant very challenging.

Zaca Fire Presents Challenges in Drinking Water Treatment

The challenge of treating water is expected to increase as water temperatures rise in the summer months. "Nutrients in the water from the ash and sediments may cause algae blooms" says Cathy Taylor, Water System Manager for the City of Santa Barbara. While not harmful to health, the algae may cause changes in water taste and odor.



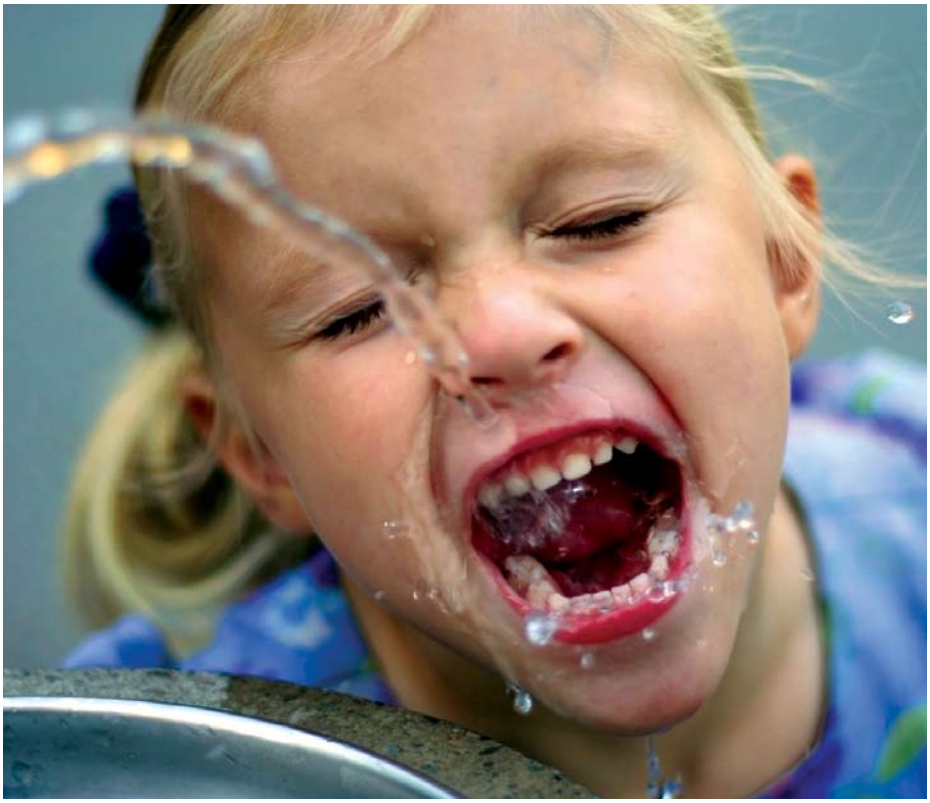
A City laboratory analyst performs one of the many tests on our drinking water.

Drinking Water Continues to Meet Strict Health Standards

Public water systems must meet very strict federal and state standards. Because runoff after the fire added so much additional organic material to Gibraltar Reservoir and Lake Cachuma, the City is diligently tracking the effects on water quality. This may include increased levels of disinfection byproducts (DBPs). DBPs are formed when chlorine, which is added to eliminate viruses and bacteria, reacts with organic material in the water. These DBPs have been linked to possible adverse health effects following long-term exposure above regulatory levels.

City water meets the regulatory health standard for DBPs. Because warmer temperatures tend to increase production of DBPs, there is a possibility that upcoming test results may be higher than normal. As a precaution, the City is performing additional treatment measures that are intended to keep the City's drinking water in compliance with federal regulations.

For more information about water quality, contact Susan Thomson, Water Treatment Superintendent at (805) 897-2621. Additional information on water and water quality is also available at www.SantaBarbaraCA.gov/water



Drinking Water Treatment Regulations

The City gets most of its drinking water from Lake Cachuma and Gibraltar Reservoir. Occasionally well water is also supplied to City water customers. As water travels over 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 the water source include:

- Microbial contaminants such as bacteria and viruses that may come from wildlife or human activity.
- Inorganic contaminants such as salts and metals that can be naturally occurring or result from human activities.
- Radioactive contaminants, which can be naturally occurring.
- Pesticides and herbicides, which 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 byproducts of industrial processes, petroleum production and use, or agricultural applications and septic systems.

To ensure safe drinking water, federal and state regulations limit the amount of certain contaminants in public water systems. Regulations also establish limits for contaminants in bottled water to provide protection for public health.

In 2007, as in previous years, City of Santa Barbara water met all primary state and federal standards for drinking water. All of the drinking water that comes from Lake Cachuma and Gibraltar Reservoir is treated at the Cater Water Treatment Plant before being distributed to customers. If you are in any community and have questions about the water quality, call their water department and ask for a copy of their Consumer Confidence Report.

Special Info Available

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those who are undergoing chemotherapy, have undergone organ transplants, have HIV/AIDS or other immune system disorders, or are very old or young, 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 1-800-426-4791, or www.epa.gov/safewater/.

Safe Drinking Water Hotline and Web Site

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's Safe Drinking Water Hotline at 1-800-426-4791 or visiting their website at www.epa.gov/safewater/.

State of the Water Supply

Lake Cachuma is the City of Santa Barbara's primary source of water.

Lake Cachuma and Gibraltar Reservoir filled again this past winter, providing relief from the driest year in over a century. This is good news for our water supply. Cachuma is particularly important because it is the City's primary water supply. A full reservoir at Cachuma relieves any immediate drought concerns, but conservation is always important.

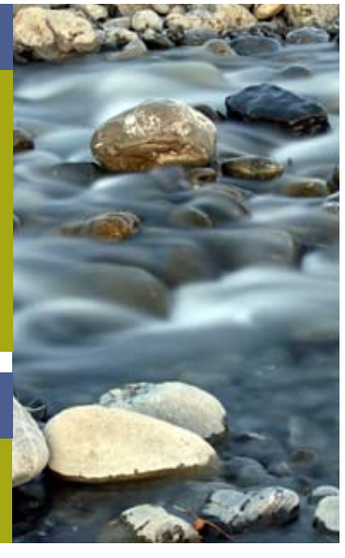
Looking into the future, the City has begun an update of the 1994 Long Term Water Supply Program to be sure that we continue to have a reliable water supply to meet future demand. We will re-evaluate the expected deliveries from our various supply sources, identify all feasible water conservation efforts to manage demand, and evaluate opportunities for increasing the use of recycled water to offset the use of limited potable supplies. The goal will be to ensure an adequate and cost effective long term water supply for the City.

As always, we encourage all of our customers to take advantage of the City's many water conservation opportunities. Visit our web site at **www.SantaBarbaraCA.gov/water** or call 805-564-5460 for information.

Use water-wise plants in your garden. For a searchable water-wise plant database go to: SantaBarbaraCA.gov/water

Radon

Radon is a radioactive gas that you can't see, taste or smell that is found throughout the United States. It occurs naturally in certain rock formations. As a result, radon can be found in Santa Barbara's groundwater, which provides about 7% of the City's total water supply. Radon has not been detected in the City's surface water. Radon can enter homes through cracks or holes in foundations and floors. Radon can also get indoors when released from tap water. Test your home if you are concerned about radon. Testing is inexpensive and easy. For additional information call USEPA's radon hotline at (800) SOS RADON.



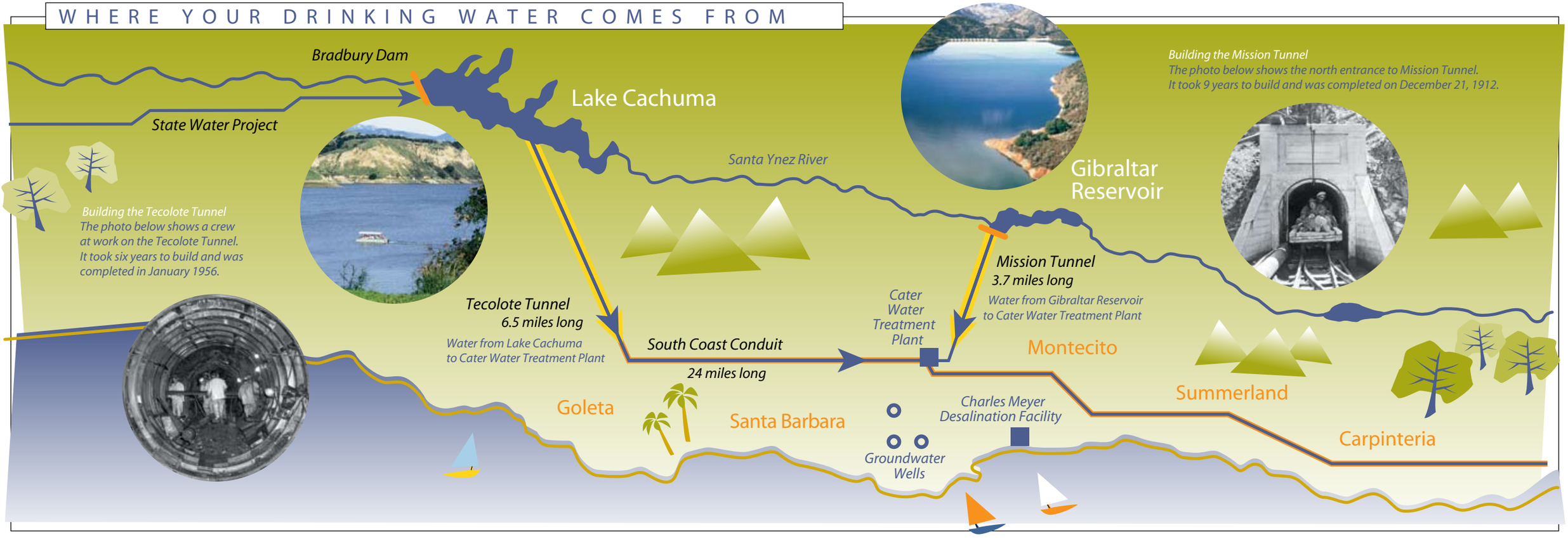
Your Water Softener Setting

The City's surface water at Cater Water Treatment Plant has a hardness range of 16 to 24 grains per gallon. The City's groundwater supplies have a hardness range of 18 to 39. One grain per gallon equals 17 milligrams per liter.

Limited Potential for Contamination

The City has evaluated the vulnerability of our water supplies to contamination. For potential contaminates at Lake Cachuma, the use of two stroke engines contributes MTBE to the water. Gibraltar Reservoir's remote location, and the restriction of access to the reservoir limit opportunities for contamination. City groundwater supplies are generally located deep underground. Nonetheless, there is the potential for contaminants from surface sources, such as gasoline stations and dry cleaners, to reach City water supplies. All water sources are carefully monitored to ensure that pollutants are not present at levels exceeding state and federal regulations. For more information, call 805-568-1008.

WHERE YOUR DRINKING WATER COMES FROM



2007 City Drinking Water Quality Report

Definitions

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 U.S. Environmental Protection Agency.

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

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

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

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

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

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

Secondary Drinking Water Standards (SDWS)
MCLs for contaminants that effect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Unregulated Contaminant Monitoring Regulations (UCMR)
Data generated by the new UCMR will be used to evaluate and prioritize contaminants on the Drinking Water Contaminant Candidate List, a list of contaminants EPA is considering for possible new drinking water standards. Also known as "State Regulated Contaminants with No MCLs".

Legend

µg/L: Micrograms per liter (parts per billion)
mg/L : Milligrams per liter (parts per million)
ND: Not detected at testing limit
NTU: Nephelometric Turbidity Units
pCi/L : PicoCuries per liter (a measure of radiation)
mmho/cm: Micromhos per centimeter
DBP: Disinfection Byproducts
NA: Not applicable or no standard or no data

SUBSTANCE (Parameter)	Public Health Goal	Maximum Contaminant Level	Range Detected	Reporting Value	Range Detected	Reporting Value	Major Source in Drinking Water
PRIMARY STANDARDS			**Surface Water**		**Groundwater**		
Regulated Contaminants with Primary MCLs or MRDLs							
Microbiological Contaminants							
Total Coliform Bacteria	0	5% of monthly samples	0%	0%	0%	0%	Naturally present in the environment
Turbidity (NTU)	NA	TT = 1 NTU	0.02 - 0.06	0.06	See table below	See table below	Natural river sediment/soil run-off
		TT = 95% of samples ≤0.3 NTU	NA	100%			
Inorganic Contaminants							
Fluoride (mg/L)	1	2.0	0.33 – 0.49	0.42	0.17 – 0.73	0.37	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer factories
Aluminum (µg/L)	600	1000	23 – 263	104	5 – 51	25	Erosion of natural deposits
Nitrate (mg/L)	45 as NO_3	45	ND	ND	3.49 – 24.5	8.5	Erosion of natural deposits; runoff from fertilizer use
Barium (mg/L)	2	1	No Range	ND	No Range	0.004	Erosion of natural deposits
Uranium (µg/L)	NA	30	2.40 - 2.86	2.55	ND - 9.50	2.12	Erosion of natural deposits
Disinfection Byproducts, Residuals, and Byproduct Precursors		Running Average					
Total Trihalomethanes (µg/L)	NA	80	3.2 – 92	60.8	3.2 – 92	60.8	By-product of drinking water chlorination
Haloacetic acids (µg/L)	NA	60	ND – 24	12.4	ND – 24	12.4	By-product of water disinfection
Disinfectant-Free Chlorine Residual (mg/L)	MRDLG as Cl_2 4.0	MRDL as Cl_2 4.0	ND – 1.56	0.60	ND – 1.56	0.60	Drinking water disinfectant added to treatment
Control of DBP Precursors–TOC (mg/L)	NA	Treatment Requirements	2.28 – 3.07	2.69	0.20 - 0.61	0.36	Total Organic Carbon (TOC) has no health effects. However, it provides a medium for the formation of disinfection byproducts. Various natural & manmade sources.
Volatile Organics							
Tetrachloroethylene (PCE) (µg/L)	0.06	5	No Range	ND	ND – 3.4	0.68	Discharge from factories, dry cleaners, and auto shops
UCMR *Unregulated Contaminants*							
Boron (µg/L)	NA	1000 (AL)	260 – 270	265	NA	NA	
Vanadium (µg/L)	NA	50 (AL)	ND – 4.9	2.2	NA	NA	
Chromium VI (µg/L)	NA	NA	ND	ND	ND - 2.3	ND	
Lead/Copper Rules *Monitored at the Customer's Tap Number of sites exceeded Action Level = 0*							
Copper (mg/L)	0.17	1.3 (AL)	ND – 0.474	0.079	ND – 0.474	0.079	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (µg/L)	2	15 (AL)	ND – 4.0	2.4	ND – 4.0	2.4	
Radiochemistry *Radioactive Contaminants*							
Radon (pCi/L)	NA	NA	ND	ND	ND – 350	312	See reporting notice on radon in this report
Gross Alpha Particle Activity (pCi/L)	NA	15	ND	ND	ND – 3.7	ND	Erosion of natural deposits
SECONDARY STANDARDS		*Aesthetic Standards Established By the State of California, Department of Health Services.*					
Regulated Contaminants with Secondary MCLs		*No adverse health affects from exceedence of standards.*					
Groundwater Turbidity (NTU)	NA	TT = 5 NTU	See table above	See table above	0.09 – 0.64	0.64	Natural river sediment soil run-off
		TT = 95% of samples ≤1.0 NTU			NA	100%	
Threshold Odor Number at 60 °C	NA	3	6 – 12	9	8 – 25	15	Naturally occurring organic materials
Color (Units)	NA	15	ND	ND	ND -5	ND	Naturally occurring organic materials
Chloride (mg/L)	NA	500	16 – 20	18	40 – 202	93	Run-off / leaching from natural deposits; seawater influence
Copper (mg/L)	NA	1.0	ND	ND	ND -0.03	0.003	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (mg/L)	NA	0.3	ND	ND	ND - 0.15	0.07	Leaching from natural deposits
Sulfate (mg/L)	NA	500	246 – 281	264	154 – 290	221	Run-off / leaching from natural deposits
Specific Conductance (µmhos/cm)	NA	1600	849 – 928	880	847 – 1720	1145	Run-off / leaching from natural deposits; seawater influence
Total Dissolved Solids (mg/L)	NA	1000	598 – 677	641	584 – 1294	822	Run-off / leaching from natural deposits
Additional Constituents							
pH (units)	NA	NA	7.92 – 8.27	8.15	6.74 – 7.72	7.00	
Total Hardness as $CaCO_3$ (mg/L)	NA	NA	267 – 404	374	305 – 670	454	
Total Alkalinity as $CaCO_3$ (mg/L)	NA	NA	172 – 194	182	164 – 296	234	
Calcium as Ca (mg/L)	NA	NA	80 – 91	86	85 – 166	121	
Magnesium (mg/L)	NA	NA	37 – 44	40	22 – 70	39	
Sodium (mg/L)	NA	NA	39 – 47	43	41 – 105	64	
Potassium (mg/L)	NA	NA	2.5 – 5.1	3.0	1.1 – 3.6	1.9	

Note: Listed in the table above are substances detected in the City's drinking water. Not listed are more than 135 regulated and unregulated substances that were below the laboratory detection level. The City has received an extension to comply with the new Federal drinking water standards for disinfection byproducts. Nonetheless, the City is currently meeting the new standards.

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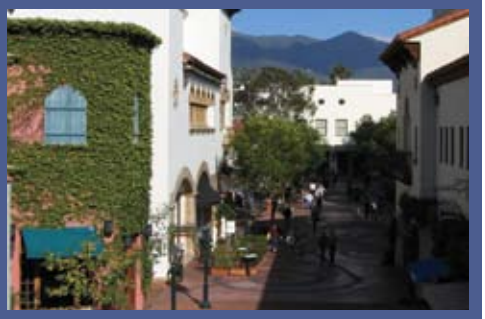

For more information, go to www.SantaBarbaraCA.gov/water or call 564-5460.

En Español

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien que lo entienda bien. Si usted tiene preguntas acerca del agua de la ciudad, por favor llame a Don Montoya, a la oficina de Recursos del Agua, al teléfono 805-564-5387.

For More Information

Questions on the City's water system, call 805-564-5387.

Questions on water quality, call 805-568-1008.

City of Santa Barbara Board of Water Commissioners meets at 3:00 p.m. on the second Monday of each month. Board sessions are open to the public and are usually held in the Public Works Conference Room, located at 630 Garden Street.

www.SantaBarbaraCA.gov/water

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Questions on Water
Call 805-564-5460

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