City of Santa Barbara

JUNE 2022

ANNUAL WATER QUALITY REPORT

SantaBarbaraCA.gov/Water

MESSAGE FROM THE WATER RESOURCES MANAGER

The impacts of climate change are here, as evidenced by this past winter. California experienced one of the wettest Decembers on record, followed by a record breaking dry period from January through late March. This is on top of 11 years of a prolonged drought, where our groundwater basins were strained and Lake Cachuma failed to receive enough rain to make it spill. Extreme weather is in our future; such events are occurring globally, and Santa Barbara has not been spared. Preparing for extreme weather requires continued investment in infrastructure and diversification of our water supplies. Fortunately, the City has been a leader in these areas by investing in our water treatment and distribution systems, as well as developing one of the most diverse water supply portfolios in California. Whether the threat is drought or wildfires, the City is positioned to pull from a myriad of water supply sources, including Gibraltar Reservoir, Lake Cachuma, groundwater, imported State Water, desalinated water, recycled water and enhanced water conservation practices. While we cannot control the weather, we can prepare and plan for how to best use our water supplies. I am optimistic about the City's water supply security, and I am confident the City is well positioned to meet the challenges of another drought. The strong commitment of our community and elected officials to be leaders in sustainability and resiliency will enable us to meet the challenges of a changing climate. To stay informed and learn more about the City's water supply strategy, please visit our website at **SantaBarbaraCA.gov/Water**.

Sincerely,
Joshua Haggmark, Water Resources Manager

COMMUNITY PARTICIPATION

For questions about water quality, contact the Water Resources Laboratory at WaterLab@SantaBarbaraCA.gov or call 805-568-1008.

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

The City of Santa Barbara Water Commission meets at 9:00 AM on the third Thursday of each month. For more information on the Water Commission, visit SantaBarbaraCA.gov/WC.

SantaBarbaraCA.gov/Water

ONE WATER
CITY OF SANTA BARBARA

The Desal Link project connects key community water sources.

Desal Link Pipeline Project

Our Community Water Connection

The Desal Link project will connect key community water sources by installing an underground pipeline between the Charles E. Meyer Desalination Plant and water mains connected to the Cater Water Treatment Plant. This new pipeline will enable desalinated water to reach our entire service area, while enhancing system resiliency and improving water quality.

Before this project, only residents and businesses from the waterfront up to about Micheltorena Street have had access to desalinated water. The Desal Link project will connect desalinated water to the City's main water distribution hub - the Cater Water Treatment Plant. This will help ensure that even during an extreme emergency, the City can meet water demand throughout Santa Barbara. After the Desal Link project, all residents can enjoy desalinated water that has fewer minerals, resulting in softer water and improved taste.

The Desal Link project has been in construction since November 2021, and has installed more than 5,000 feet of new underground pipeline on Garden, Sola, and Olive Streets. Construction crews are working in three-block sections for about six weeks at a time. Construction will progress down Olive, Ortega, Calle Cesar Chavez, and Yanonali Streets toward the Desal Plant, and is expected to be completed in winter 2022.

The project is being paid for by Thomas Fire disaster settlement funds and Water Fund reserves. The City will not need to generate additional rate revenue for this project.

For more information, please visit our project website at **SantaBarbaraCA.gov/DesalLink.**

DESAL LINK

OUR COMMUNITY WATER CONNECTION

In 2021, the City of Santa Barbara's water met all EPA and state drinking water health standards. Before distribution, drinking water from our primary water sources is treated at the Cater Water Treatment Plant or the Charles E. Meyer Desalination Plant. Groundwater is treated at the Ortega Groundwater Treatment Plant or at the individual well site.

Drinking Water Treatment Regulations

Most of the City's drinking water comes from Lake Cachuma, Gibraltar Reservoir, and the Charles E. Meyer Desalination Plant. A portion of the City's water also comes from groundwater and imported State Water sources. 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 sources 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 run-off, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes, petroleum production and use, or septic systems and agricultural applications.

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.

Special Information Available

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 people, and infants can be particularly at risk of infection. These people should seek advice about drinking water from their health care providers. U.S. EPA/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 1-800-426-4791.

The Santa Ynez River is one of the largest rivers on the Central Coast of California and has three reservoirs: Lake Cachuma, Jameson and Gibraltar.

Limited Potential for Contamination

The City has evaluated the vulnerability of its water supplies. Gibraltar Reservoir's remote location and restricted access limits opportunities for contamination. Water contact activities at Lake Cachuma are prohibited. The Desalination Plant and Cater Plant use advanced treatment technologies. City groundwater supplies are located deep beneath the surface. Nevertheless, contaminants from sources such as gas stations and dry cleaners could potentially reach City water supplies. All water sources are carefully monitored to ensure pollutants do not exceed state and federal standards. For more information, call the City's Water Resources Laboratory at 805-568-1008.

Lead in Plumbing

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 private service lines and home plumbing. The City has no lead service lines in the water distribution system. The City is responsible for providing high-quality drinking water but cannot control the variety of materials used in private plumbing components. The City's water contains low levels of lead and copper. However, if your water has been sitting in your pipes for a number of days, you can minimize lead exposure by flushing your tap for 30 seconds before using the water for drinking or cooking. Additionally, 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 at 1-800-426-4791, or EPA.gov/SafeWater/Lead.

Public Notification

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards.

From June 18, 2021 to July 6, 2021, the combined filter effluent turbidity of the Charles E. Meyer Desalination Plant was not monitored in accordance with drinking water regulations. However, for the same period, the delivered water turbidity levels were continuously monitored and met drinking water quality standards.

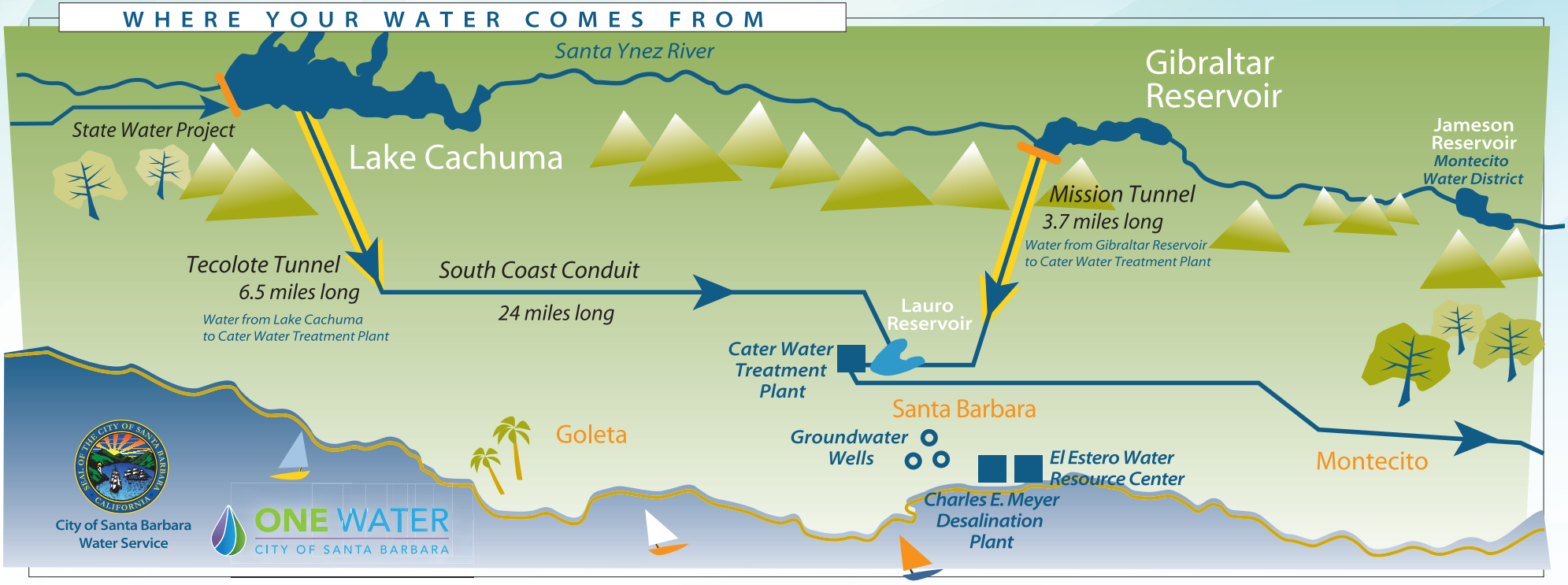
From October 12, 2021 to October 15, 2021, the effectiveness of the ultra-violet light (UV) disinfection system at the Charles E. Meyer Desalination Plant was not monitored in accordance with drinking water regulations. During this period, disinfectant levels and bacterial counts were monitored in the water distribution system and both met water quality standards.

Nitrate Levels

The City's highest nitrate level in 2021 was 7.1 mg/L. Nitrate in drinking water at levels above 10 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 a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 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.

Water Quality Tests

To ensure the delivery of quality drinking water that is free of harmful bacteria, water quality tests are performed weekly at our sample stations located throughout the water system. The results are submitted monthly to the State Water Resources Control Board, Division of Drinking Water. All water systems are required to comply with both the State Total Coliform Rule and the Federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.



Safe Drinking Water Hotline and Website

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. EPA's Safe Drinking Water Hotline at 1-800-426-4791 or visiting their website at EPA.gov/SafeWater.

Recommended Water Softener Settings

Groundwater: 18-30 grains/gallon
Surface Water: 21-26 grains/gallon
Desal Water: 3-4 grains/gallon
1 grain/gallon = 17.1 milligrams per liter

Desal water distribution map:
SantaBarbaraCA.gov/Desal

Radon

Radon is a radioactive gas that you cannot 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. Groundwater is a small part (<10%) 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 the State radon program at 1-800-745-7236, the EPA Safe Drinking Water Hotline at 1-800-426-4791, or the National Safety Council Radon Hotline at 1-800-SOS-RADON.

Recycled Water Quality

Recycled water is used at over 50 sites for irrigation at parks, schools, and golf courses. Recycled water is also used at some sites for toilet flushing, dust control, and sidewalk cleaning. The recycled water distribution system uses completely separate pipelines from the City's drinking water system and is denoted by purple pipes, purple color-coded irrigation systems, and signs. Recycled water quality is monitored by the City and updated online at SantaBarbaraCA.gov/RecycledWater.

Lake Cachuma is the City's primary surface water supply, and a source for surrounding communities.

CITY DRINKING WATER QUALITY REPORT

THIS ANNUAL REPORT SHOWS DATA COLLECTED FROM CALENDAR YEAR 2021

PRIMARY STANDARDS

Regulated Contaminants with Primary MCLs or MRDLs

Microbiological Contaminants	MCL	PHG	# of Positive Samples	Highest % of Positives	Major Sources in Drinking Water
Total Coliform Bacteria	5% of monthly samples test positive	MCLG, 0	0	0.00%	Naturally present in the environment
Fecal Coliform Bacteria and E. coli	0	MCLG, 0	0	0.00%	Human and animal fecal waste
Turbidity (NTU)	TT = 1 NTU TT = 95% of samples ≤0.3 NTU	NA	**Highest Single Measurement** 0.07	**Samples ≤0.3 NTU** 100%	Natural river sediment/soil runoff

Lead/Copper Rule			90th % Value	# of Sites Sampled	# of Sites Exceeding AL	
Copper (mg/L)	AL, 1.3	0.3	0.53	31	1	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (µg/L)	AL, 15	0.2	2.6	31	0	

Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors	MCL	PHG	System Wide Average	System Wide Range	
Total Trihalomethanes (µg/L)	LRAA, 80	NA	Highest LRAA, 54	0.92 - 60	Byproduct of drinking water disinfection
Haloacetic Acids (µg/L)	LRAA, 60	NA	Highest LRAA, 25	ND - 28	Byproduct of drinking water disinfection
Disinfectant - Chlorine as Cl_2 (mg/L)	MRDL, 4.0	MRDLG, 4.0	0.71	ND - 1.75	Drinking water disinfectant added for treatment
Bromochloroacetic Acid (ug/L)	NA	NA	2.9	ND - 6.4	Byproduct of drinking water disinfection
Bromodichloromethane (µg/L)	NA	NA	10	ND - 16	Byproduct of drinking water disinfection
Bromoform (µg/L)	NA	NA	2.8	0.92 - 13	Byproduct of drinking water disinfection
Chloroform (µg/L)	NA	NA	14	ND - 31	Byproduct of drinking water disinfection
Dibromoacetic acid (ug/L)	NA	NA	1.9	ND - 3.5	Byproduct of drinking water disinfection
Dibromochloromethane (ug/L)	NA	NA	8.0	ND - 14	Byproduct of drinking water disinfection
Dichloroacetic acid (µg/L)	NA	NA	5.4	ND - 14	Byproduct of drinking water disinfection
Monochloroacetic acid (µg/L)	NA	NA	1.7	ND - 3.6	Byproduct of drinking water disinfection
Trichloroacetic acid (ug/L)	NA	NA	3.9	ND - 7.9	Byproduct of drinking water disinfection

	MCL	PHG	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	Desalinated Water Average	Desalinated Water Range	
Bromochloroacetic Acid (ug/L)	NA	NA	0.61	ND - 1.2	NA	NA	NA	NA	Byproduct of drinking water disinfection
Bromodichloromethane (µg/L)	NA	NA	1.0	0.69 - 1.2	ND	NA	ND	NA	Byproduct of drinking water disinfection
Bromoform (µg/L)	NA	NA	0.87	0.58 - 1.1	ND	NA	ND	NA	Byproduct of drinking water disinfection
Dibromoacetic acid (µg/L)	NA	NA	1.2	ND - 1.6	NA	NA	ND	NA	Byproduct of drinking water disinfection
Dibromochloromethane (µg/L)	NA	NA	1.8	1.4 - 2.1	NA	NA	NA	NA	Byproduct of drinking water disinfection
Dichloroacetic acid (µg/L)	NA	NA	1.2	ND - 2.6	NA	NA	ND	NA	Byproduct of drinking water disinfection
Trichloroacetic acid (µg/L)	NA	NA	2.9	ND - 9.7	NA	NA	ND	NA	Byproduct of drinking water disinfection
Bromate (µg/L)	10	0.1	3.8	1.8 - 5.3	NA	NA	NA	NA	Byproduct of drinking water disinfection
Control of DBP Precursors - TOC (mg/L)	TT	NA	3.0	2.5 - 4.2	NA	NA	0.20	ND - 0.35	Various natural and manmade sources. Total Organic Carbon (TOC) has no health effects.
Radioactive Contaminants									
Uranium (pCi/L)	20	0.43	0.83	NA	2.9	0.74 - 5.0	ND	NA	Erosion of natural deposits
Inorganic Contaminants									
Aluminum (mg/L)	1	0.6	0.026	ND - 0.083	ND	NA	ND	NA	Erosion of natural deposits
Fluoride (mg/L)	2.0	1	0.40	0.32 - 0.44	0.27	0.27 - 0.27	ND	NA	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Total Nitrate + Nitrite as N (mg/L)	10	10	0.13	ND - 0.23	3.8	0.59 - 7.1	ND	NA	Erosion of natural deposits; runoff from fertilizer use
Nitrate as NO3 (mg/L)	45	2	0.58	ND - 1.0	11	ND - 24.4	ND	NA	Erosion of natural deposits; runoff from fertilizer use
Nitrate as N (mg/L)	10	10	0.13	ND - 0.23	2.3	ND - 7.1	ND	NA	Erosion of natural deposits; runoff from fertilizer use

CITY DRINKING WATER QUALITY REPORT

THIS ANNUAL REPORT SHOWS DATA COLLECTED FROM CALENDAR YEAR 2021

SECONDARY STANDARDS

Regulated Contaminants with Secondary MCLs

Aesthetic Standards Established by the State of California, Department of Public Health. No adverse health effects from exceedance of standards.

	MCL	PHG	Surface Water Average	Surface Water Range	Groundwater Average	Groundwater Range	Desalinated Water Average	Desalinated Water Range	Major Sources in Drinking Water
Iron (µg/L)	300	NA	12	ND - 17	120	22 - 210	ND	NA	Leaching from natural deposits
Manganese (ug/L)	50	NA	1.3	ND - 2.2	120	7.4 - 230	ND	NA	Leaching from natural deposits
Color, Apparent (units)	15	NA	ND	NA	8	ND - 20	ND	NA	Naturally occurring organic materials
Threshold Odor Number at 60 °C (units)	3	NA	3	2 - 4	1	ND - 1	ND	NA	Naturally occurring organic materials
Turbidity, Laboratory (NTU)	5	NA	0.11	0.10 - 0.15	6.8	0.41 - 16	0.38	NA	Soil runoff
Total Dissolved Solids (mg/L)	1000	NA	710	598 - 776	1010	560 - 1500	270	230 - 320	Runoff / leaching from natural deposits
Specific Conductance (µmhos/cm)	1600	NA	923	890 - 1005	1360	820 - 2040	540	490 - 620	Substances that form ions when in water; seawater influence
Chloride (mg/L)	500	NA	29	28 - 31	150	36 - 350	140	120 - 160	Runoff / leaching from natural deposits; seawater influence
Sulfate (mg/L)	500	NA	262	249 - 290	220	145 - 290	4.3	NA	Runoff / leaching from natural deposits

CONTAMINANTS WITH NO MCLs

i.e., Unregulated Contaminants

Boron (mg/L)	NL,1	NA	0.38	0.37 - 0.39	0.14	ND - 0.19	0.73	0.62 - 0.84	The babies of some pregnant women who drink water containing boron in excess of the notification level may have an increased risk of developmental effects, based on studies in laboratory animals.
Additional Constituents									
pH (units)	NA	NA	7.64	7.31 - 7.79	6.86	6.71 - 6.95	8.71	8.17 - 8.89	
Total Hardness as $CaCO_3$ (mg/L)	NA	NA	391	368 - 432	420	320 - 510	54	NA	
Total Alkalinity as $CaCO_3$ (mg/L)	NA	NA	193	180 - 229	210	NA	44	38 - 49	
Calcium (mg/L)	NA	NA	85	80 - 96.1	110	84 - 140	18	15 - 21	
Magnesium (mg/L)	NA	NA	42	38 - 45	34	27 - 40	2.2	NA	
Sodium (mg/L)	NA	NA	53	48 - 58	77	52 - 140	79	68 - 94	
Potassium (mg/L)	NA	NA	4.0	3.8 - 4.5	1.4	1.1 - 1.7	500	NA	
Uranium (µg/L)	NA	NA	3.2	NA	4.2	1.1 - 7.4	ND	NA	

City laboratory staff conduct more than 45,000 water quality tests each year to ensure safe drinking water for our community.

Note: Listed in the tables are substances detected in the City's drinking water. Not listed are more than **100** regulated and unregulated substances that were below the laboratory detection level.

The state allows us to monitor for some contaminants less than once per year because the concentrations of the these contaminants do not change frequently. Some of our data, though representative, are more than one year old. All data presented in the table above are from 2021, except for the following: Potassium for ground water is from 2018. All uranium data is from 2019 except for surface water, which is from 2021. Boron for surface water is from 2016 and 2017. Lead and Copper Rule results are from 2020.

UNREGULATED CONTAMINANTS MONITORING (UCMR4)

Haloacetic Acids	MCL	PHG	System Wide Average	System Wide Range
Bromochloroacetic Acid (ug/L)	NA	NA	3.9	ND - 8.2
Bromodichloroacetic Acid (ug/L)	NA	NA	3.5	ND - 5.8
Chlorodibromoacetic Acid (ug/L)	NA	NA	2.2	ND - 3.3
Dibromoacetic Acid (ug/L)	NA	NA	2.3	ND - 4.2
Dichloroacetic Acid (ug/L)	NA	NA	6.0	ND - 16
Tribromoacetic Acid (ug/L)	NA	NA	2.3	ND - 4.9
Trichloroacetic Acid (ug/L)	NA	NA	4.2	ND - 12
HAA5	NA	NA	13	ND - 32
HAA6Br	NA	NA	14	ND - 24
HAA9	NA	NA	24	ND - 51
Additional Contaminants				
Bromide (ug/L)	NA	NA	24000	51 - 73000
Germanium (ug/L)	NA	NA	0.42	ND - 0.95
Manganese (ug/L)	NA	NA	0.81	ND - 4.1
Total Organic Carbon (mg/L)	NA	NA	3.5	1.2 - 5.4

About the Unregulated Contaminant Monitoring Rule 4

Unregulated contaminant monitoring helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

UCMR4: As required by the EPA, the City's UCMR4 data will reflect all detected contaminants from March 2018 through November 2020.

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

Maximum 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.

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.

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 contaminants 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 affect taste, odor, or appearance of drinking water. Contaminants with SDWS do not affect the health at MCL levels.

Notification Level (NL)
Notification levels are health-based levels established by CDPH for chemicals in drinking water that lack MCLs.

Legend

mg/L:	milligrams per liter (parts per million)
µg/L:	micrograms per liter (parts per billion)
µmhos/cm:	micromhos per centimeter
pCi/L:	picoCuries per liter (a measure of radioactivity)
ND:	Not Detected at testing limit
NA:	Not Applicable
NTU:	Nephelometric Turbidity Units
DBP:	Disinfection Byproducts
TOC:	Total Organic Carbon
LRAA:	Locational Running Annual Average
ng/L:	nanograms per liter (parts per trillion)