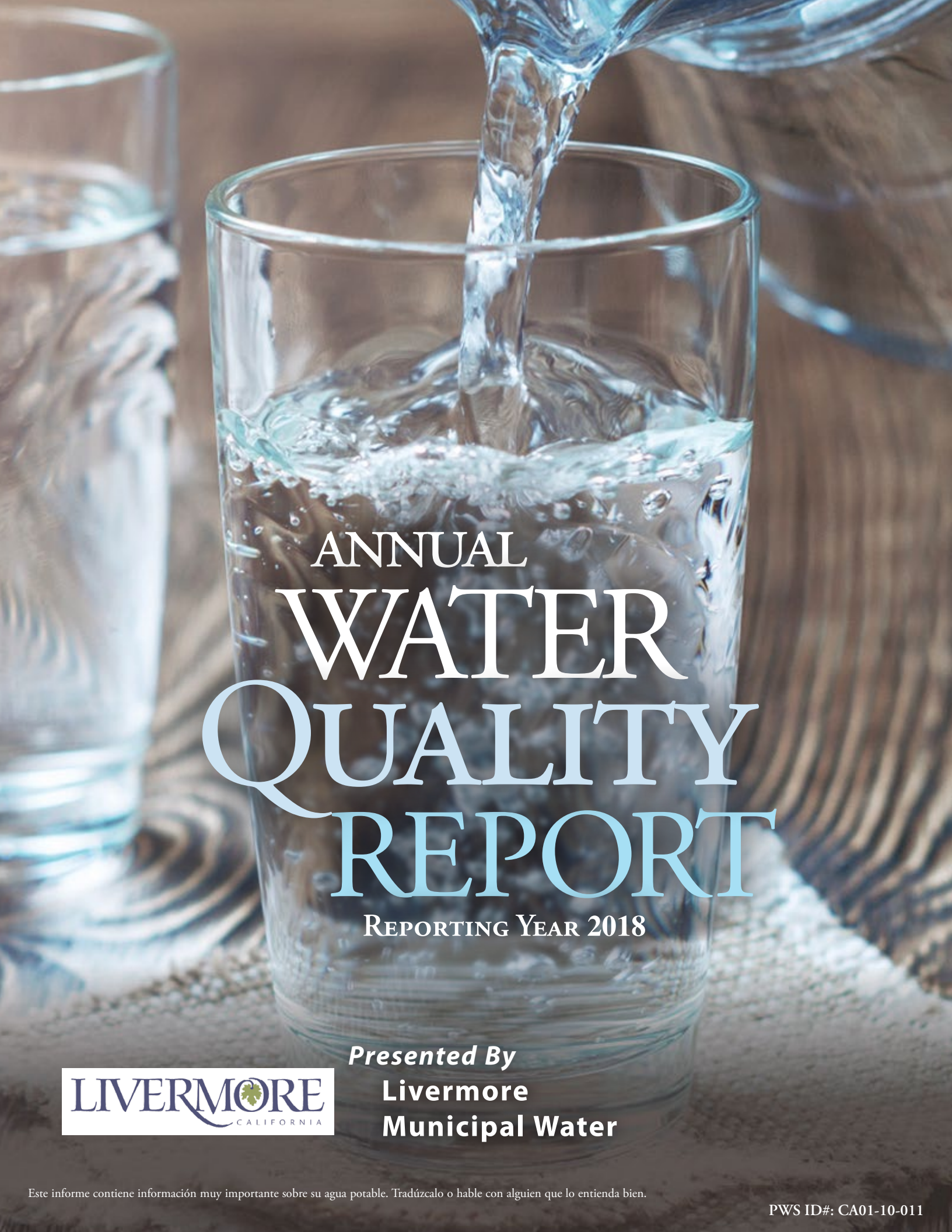

ANNUAL WATER QUALITY REPORT

Reporting Year 2018

Presented By

Livermore Municipal Water

LIVERMORE CALIFORNIA

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

PWS ID#: CA01-10-011

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. Over the years, we have dedicated ourselves to providing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available should you ever have any questions or concerns about your water.

Where Does My Water Come From?

Since its inception, Livermore Municipal Water has received 100 percent of its wholesale water from the Zone 7 Water Agency, which treats water from the State Water Project in the Sacramento-San Joaquin Delta and groundwater wells in Pleasanton. Zone 7 is the wholesale water agency responsible for managing the potable water sources and providing either disinfected surface potable water or disinfected potable well water for the valley retail water agencies. Livermore Municipal Water receives most of its water from Zone 7's two water treatment plants (Del Valle and Patterson Pass), but during 2018, 15.2 percent of the total water received was from the Zone 7 wells in Pleasanton.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 or http://water.epa.gov/drink/hotline.

Substances That Could Be in 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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. 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.

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 can 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 which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants that can be naturally occurring or can 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 U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call David Lennier, Water Supervisor, at (925) 960-8100.

Zone 7 Water Agency Perfluorooctanesulfonic acid (PFOS) Detection in Groundwater

PFOS is a fluorinated organic chemical that is part of a larger group of chemicals referred to as per- and poly-fluoroalkyl substances (PFAS). These manmade substances have been used extensively in consumer products designed to be waterproof, stain-resistant, or non-stick. In addition, they have been used in fire-retarding foam and various industrial processes.

PFOS is currently not a regulated contaminant in California. However, in July 2018, California Department of Drinking Water established a Notification Level (NL) of 13 parts per trillion (ppt) and a recommended Response Level (RL) of 70 ppt for PFOS in drinking water. These levels are health-based advisory levels established as precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard-setting process prescribed for the development of maximum contaminant levels and are not drinking water standards.

Zone 7 conducted monitoring for several PFAS at select drinking water sources in 2013 during Unregulated Contaminant Monitoring Rule 3 (UCMR3) monitoring, and all sources in late 2108 and early 2019. Due to advancement in analytical technology, Minimum Reporting Limits (MRLs) were much lower during recent monitoring as compared to 2013. Zone 7 found some of its groundwater wells have PFOS above the NL during the most recent monitoring efforts:

SUPPLY SOURCE	AVERAGE	RANGE
Chain of Lakes Wellfield	24	12–35
Mocho Wellfield	38	ND–86

There is no immediate indication of a source for the PFOS. Immediately after detection of PFOS above the RL in the Mocho 1 Well, Zone 7 implemented procedures to reduce PFOS levels below the RL in the delivered water from the Mocho Wellfield. Zone 7 also has initiated quarterly monitoring on wells with detections to assess seasonal variation. Current available treatment options at Zone 7 for reduction of PFOS include membrane filtration and blending of water sources.

Additional information is available at:

www.zone7water.com

www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/PFOA_PFOS.html

www.epa.gov/pfas

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. If you do use the tap, Allow your cold water to run for a few minutes at full velocity before use and avoid using hot water to prevent sediment accumulation in your hot water tank.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Livermore City Council meets twice a month at 7 p.m. in the City Council Chambers, 3575 Pacific Avenue, Livermore, California. Call the city clerk at (925) 960-4200 for exact meeting days; this information can also be found at www.cityoflivermore.net.

Lead in Home Plumbing

Lead was not detected in the Livermore Municipal Water supply above the Regulatory Action Level. 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. We are responsible for providing high-quality drinking water, but we 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) 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 (800) 426-4791 or at www.epa.gov/safewater/lead.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the fourth stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR4) program by performing additional tests on our drinking water. UCMR4 sampling benefits the environment and public health by providing the U.S. EPA with data on the occurrence of contaminants suspected to be in drinking water in order to determine if U.S. EPA needs to introduce new regulatory standards to improve drinking water quality. Unregulated contaminant monitoring data are available to the public, so please feel free to contact us if you are interested in obtaining that information. If you would like more data on the U.S. EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

REGULATED SUBSTANCES

				Livermore Municipal Water		Zone 7 Water Agency			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2018	1	2	NA	NA	0.120	ND–0.33	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chloramines (ppm)	2018	[4.0 (as Cl2)]	[4 (as Cl2)]	1.81	1.50–2.00	NA	NA	No	Drinking water disinfectant added for treatment
Chromium [Total] (ppb)	2018	50	(100)	NA	NA	ND	ND–12	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppm)	2018	2.0	1	NA	NA	0.04	ND–0.1	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids (ppb)	2018	60	NA	14	9.2–18.5	NA	NA	No	By-product of drinking water disinfection
Nitrate [as nitrogen] (ppm)	2018	10	10	NA	NA	2.3	ND–5	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Selenium (ppb)	2018	50	30	NA	NA	0.85	ND–10	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Total Trihalomethanes [TTHMs] (ppb)	2018	80	NA	31.56	24.4–36.8	NA	NA	No	By-product of drinking water disinfection
Turbidity[1] (NTU)	2018	TT	NA	NA	NA	0.3	ND–0.3	No	Soil runoff
Uranium (pCi/L)	2018	20	0.43	NA	NA	1.1	ND–4	No	Erosion of natural deposits

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH %ILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	0.3	ND	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	2016	15	0.2	ND	0/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY SUBSTANCES

				Livermore Municipal Water		Zone 7 Water Agency			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2018	500	NS	NA	NA	98	45–209	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2018	15	NS	NA	NA	0.21	ND–2.5	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2018	1,600	NS	NA	NA	814	424–1,706	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2018	500	NS	NA	NA	54.6	11–148	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2018	1,000	NS	NA	NA	467	182–1,020	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2018	5	NS	0.102	0.043–0.249	0.08	ND–2.2	No	Soil runoff

UNREGULATED CONTAMINANT MONITORING RULE - PART 4 (UCMR4) [2]

		Livermore Municipal Water		Zone 7 Water Agency		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromochloroacetic Acid (ppb)	2018	5.39	3.9–7.5	NA	NA	By-product of drinking water disinfection
Bromodichloroacetic Acid (ppb)	2018	3.35	2.4–4.8	NA	NA	By-product of drinking water disinfection
Chlorodibromoacetic Acid (ppb)	2018	3.11	1.3–4.7	NA	NA	By-product of drinking water disinfection
Dibromoacetic Acid (ppb)	2018	5.09	3.5–6.6	NA	NA	By-product of drinking water disinfection
Dichloroacetic Acid (ppb)	2018	4.02	2.1–5	NA	NA	By-product of drinking water disinfection
Manganese (ppb)	2018	NA	NA	0.64	0.41–1.04	Naturally occurring element; essential nutrient; fertilizer; batteries; fireworks
Monobromoacetic Acid (ppb)	2018	0.66	0.64–0.68	NA	NA	By-product of drinking water disinfection
Monochloroacetic Acid	2018	ND	ND	NA	NA	By-product of drinking water disinfection
Tribromoacetic Acid	2018	ND	ND	NA	NA	By-product of drinking water disinfection
Trichloroacetic Acid (ppb)	2018	5.64	1.2–2.3	NA	NA	By-product of drinking water disinfection

OTHER SUBSTANCES (ZONE 7 WATER AGENCY)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2018	59	30–141	Runoff/leaching from natural deposits
Total Hardness [as calcium carbonate] (ppm)	2018	287	64–672	Erosion of natural deposits

[1] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
[2] Unregulated contaminant monitoring helps U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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. EPA.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

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

PHG (Public Health Goal): 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 EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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