

# ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2018



*Presented By*  
**City of Sonoma**

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

PWS ID#: 4910012

## 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 producing 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. For more information about this report, or for any questions relating to your drinking water, please call Steve MacCarthy, Water Operations Supervisor, at (707) 933-2231, or email at [smacCarthy@sonomacity.org](mailto:smacCarthy@sonomacity.org).

### Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The City Council typically meets the first and third Mondays of each month, beginning at 6 p.m. at the Council Chambers, located at 177 First St. West, Sonoma CA. For further information about City Council meetings, please visit [www.sonomacity.org](http://www.sonomacity.org) or call City Hall at (707) 938-3681.



### Lead in Home 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 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](http://www.epa.gov/safewater/lead).

### Important Health Information

While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

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 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;

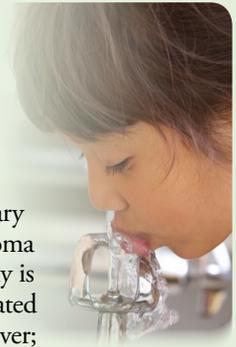
Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which can also come from gas stations, urban storm-water runoff, agricultural applications, and septic systems;

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.

## Where Does My Water Come From?

The City of Sonoma's water customers are fortunate because we enjoy a safe, reliable water supply from two sources. The City's primary source is water purchased from Sonoma Water. Sonoma Water's source of supply is five Ranney Collectors (or caissons) located in the gravels adjacent to the Russian River; seven production wells; and to a minor degree, from three wells in the Santa Rosa plain. The river originates in central Mendocino County, approximately 15 miles north of the City of Ukiah. The main channel of the Russian river is approximately 110 miles long and flows southward from its headwaters near Potter Valley to the Pacific Ocean near Jenner, about 20 miles west of the City of Santa Rosa.



We remain vigilant in delivering the best-quality drinking water

Our secondary water source consists of six city ground-water wells, which are capable of producing a combined total of approximately 1.5 million gallons of water a day. The City of Sonoma uses these wells as a supplementary supply. The wells are ready for production when there is a need to augment Sonoma Water deliveries during periods of high use, typically during the hot summer months, and for other water-related emergencies that can develop, with well 5 being permitted as a standby well (well 7 is not permitted and is offline). In 2018, the City of Sonoma Water Division purchased 639 million gallons of water from Sonoma Water and, in addition, the city produced 37 million gallons from its ground-water wells during the months of January through September. Once the water has been purchased or produced, it enters the city's distribution system, which includes more than 58 miles of water main, 4,387 service connections, 5 storage tanks and 2 pumping stations. In order to provide a high level of customer service, our water utility personnel monitor water levels in the city's storage tanks, operate city wells, sample its wells and distribution system for laboratory analysis, install new service connections and meters, read customers meters for billing, and maintain and repair the water system as needed. We thank you for your continued efforts to help us continue our water efficiency efforts. This year, we will be asking our customers to use water wisely, especially during hot summer months, and to utilize the conservation resources available to our residents.

## Source Water Assessment

In 2004 the City conducted a source water assessment and in 2018 Sonoma Water conducted their source water assessment of their municipal groundwater wells. According to the assessments, all sites are in compliance with federal safe drinking water guidelines. A complete copy of the Source Water Assessment may be viewed at City Hall, #1 The Plaza, Sonoma, CA.

## Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far, the most common method of disinfection in North America is chlorination.

Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.



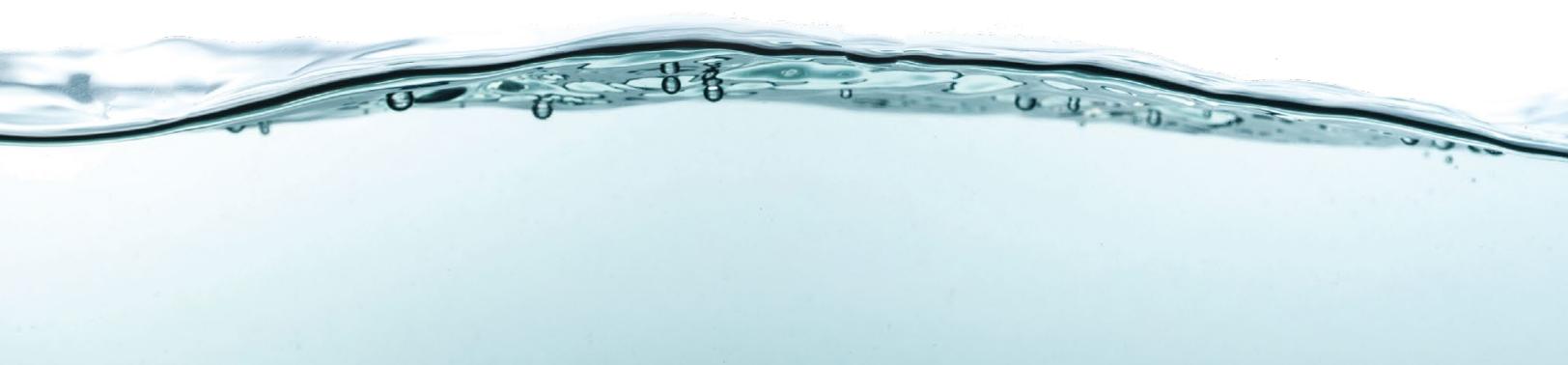
How chlorination works:

**Potent Germicide Reduction** in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

**Taste and Odor Reduction** of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

**Biological Growth Elimination** of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

**Chemical Removal** of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.



## 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.

### REGULATED SUBSTANCES

				City of Sonoma		SCWA			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Arsenic</b> (ppb)	2018	10	0.004	6.4	4.7–8.4	ND <sup>1</sup>	NA	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
<b>Fluoride</b> (ppm)	2018	2.0	1	0.3 <sup>2</sup>	0.23–0.5	0.02	ND–0.13	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
<b>Gross Alpha Particle Activity</b> (pCi/L)	2016	15	(0)	2.78 <sup>3</sup>	1.47–3	0.3 <sup>4</sup>	ND–1.36	No	Erosion of natural deposits
<b>Haloacetic Acids</b> (ppb)	2018	60	NA	6.6	5.4–7.8	8.86	6.43–14.19	No	By-product of drinking water disinfection
<b>Nitrate [as nitrate]</b> (ppm)	2018	45	45	0.55	ND–1.7	ND <sup>5</sup>	NA <sup>5</sup>	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
<b>Radium 228</b> (pCi/L)	2014	5	0.019	NA	NA	0.013 <sup>6</sup>	ND–0.136	No	Erosion of natural deposits
<b>TTHMs [Total Trihalomethanes]</b> (ppb)	2018	80	NA	24.5	23–26	15.6	13–20	No	By-product of drinking water disinfection

### Tap Water Samples Collected for Copper and Lead 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
<b>Copper</b> (ppm)	2017	1.3	0.3	0.11	0/30	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<b>Lead</b> (ppb)	2017	15	0.2	8.4	0/30	No	Internal corrosion of household water plumbing systems; discharge from industrial manufacturers; erosion of natural deposits

### SECONDARY SUBSTANCES

				City of Sonoma		SCWA			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
<b>Chloride</b> (ppm)	2018	500	NS	8.3	6.3–12	7.3	5.2–14	No	Runoff/leaching from natural deposits; seawater influence
<b>Specific Conductance</b> (µS/cm)	2018	1,600	NS	223	180–280	254	220–290	No	Substances that form ions when in water; seawater influence
<b>Sulfate</b> (ppm)	2018	500	NS	6.7	2.9–13	12.4	2–29	No	Runoff/leaching from natural deposits; industrial wastes
<b>Total Dissolved Solids</b> (ppm)	2018	1,000	NS	213	180–260	145	130–180	No	Runoff/leaching from natural deposits
<b>Turbidity</b> (Units)	2018	5	NS	5.9	ND–38	0.2	ND–0.73	No	Soil runoff
<b>Zinc</b> (ppm)	2018	5.0	NS	0.088	ND–0.22	ND	NA	No	Runoff/leaching from natural deposits; industrial wastes

## UNREGULATED AND OTHER SUBSTANCES <sup>7</sup>

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	City of Sonoma		SCWA	
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
<b>Bicarbonate</b> (ppm)	2018	106	89–124	128	120–150
<b>Bromide</b> (ppb)	2018	27.6 <sup>8</sup>	20–38	NA	NA
<b>Calcium</b> (ppm)	2018	9.6	3.9–14	18.9	10–23
<b>Chlorine Residual</b> (ppm)	2018	0.5	0.2–0.8	NA	NA
<b>Chromium</b> (ppb)	2018	0.81 <sup>9</sup>	ND–0.96	NA	NA
<b>Germanium</b> (ppb)	2018	0.84	0.43–2.1	NA	NA
<b>Magnesium</b> (ppm)	2018	5.7	1.2–9	11	1.8–14
<b>Manganese</b> (ppb)	2018	7.67 <sup>8</sup>	ND–31	NA	NA
<b>pH</b> (Units)	2018	7.6	7.2–8.1	7.68	7.21–8.57
<b>Sodium</b> (ppm)	2018	27	18–44	15.4	7.7–45
<b>Total Hardness</b> (ppm)	2018	47.6	14–72	92.7	36–112
<b>Total Organic Carbon [TOC]</b> (ppm)	2018	0.15	ND–0.78	NA	NA

<sup>1</sup> Sampled in 2017.

<sup>2</sup> Well 8 sampled in 2018.

<sup>3</sup> Wells 1,3,4,5,6, and 8 sampled in 2016. Well 2 sampled in 2013.

<sup>4</sup> Sampled in 2014.

<sup>5</sup> Sampled in 2016.

<sup>6</sup> Sampled in 2006.

<sup>7</sup> 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.

<sup>8</sup> UCMR4 sample.

<sup>9</sup> Results from UCMR3 sampling.

## 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.

**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).