

Annual Water Quality Report

Board of Public Utilities Meeting
June 15, 2023

Tony Llamas, Water Quality Supervisor



OUR FUTURE IN EVERY DRÖP

Compliance with the Safe Drinking Water Act (SDWA)

Federal Rules – Public drinking water quality:

- Total Coliform Rule
- Disinfectants/Disinfection By-Products Rule
- Lead and Copper Rule
- Groundwater Rule

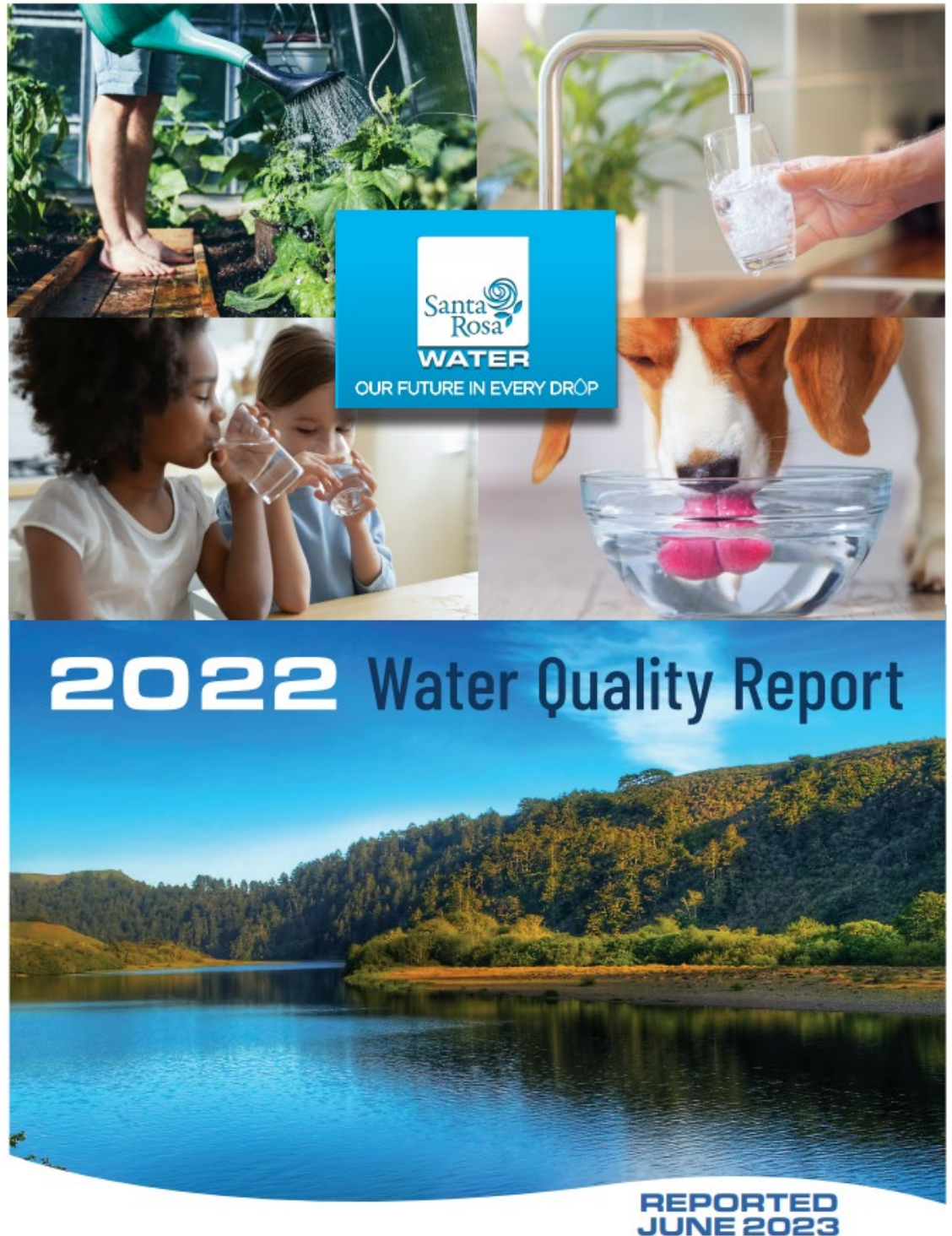
State Regulations - Cross Connection Control



OUR FUTURE IN EVERY DRÖP

Annual Water Quality Report provides:

- Water system information
- Testing Information
- Definitions
- How to read Section
- Water Quality Results
- Water Saving Tips
- Required information on health and quality



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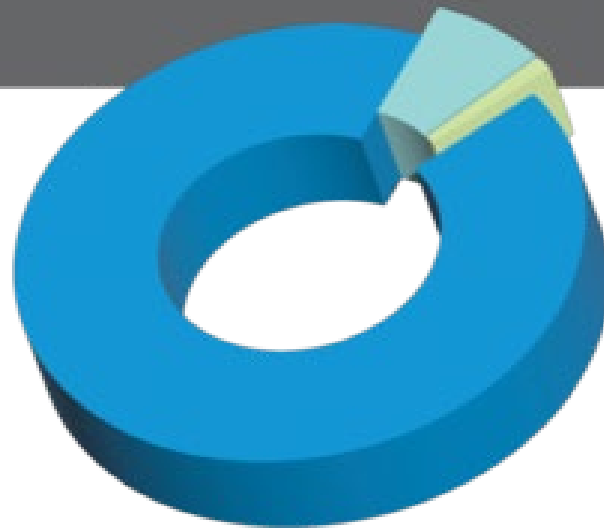
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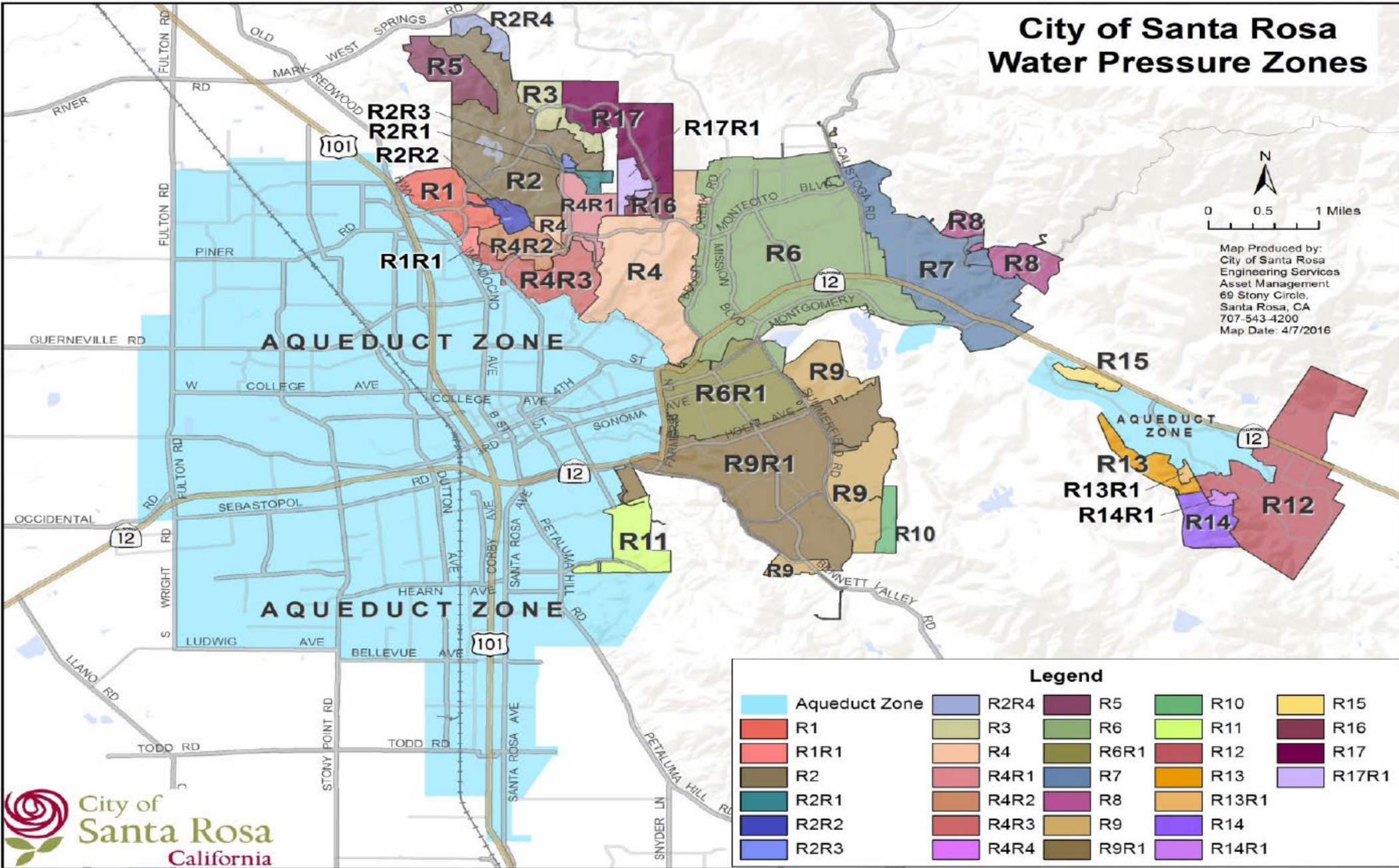
Water Supply Portfolio

Water supplied from Santa Rosa's Public Water system to homes and businesses is a combination of surface water from the Russian River and local groundwater.

- 93% Sonoma Water (Russian River)
- 7% Groundwater
- <1% Recycled

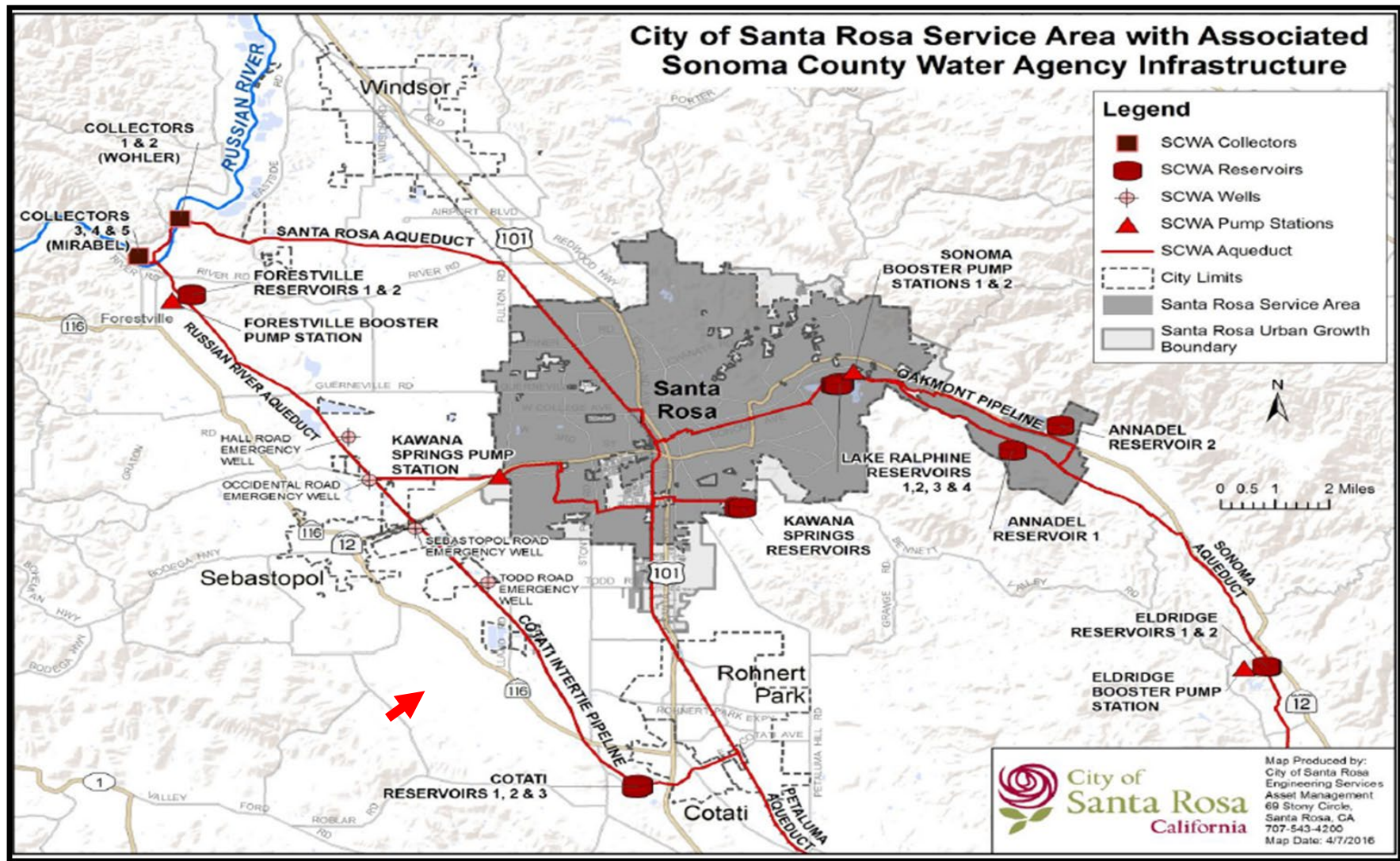


City of Santa Rosa Water Pressure Zones



Sonoma Water Transmission Lines

90 miles of pipelines from 12 to 54 inches



Field Sampling covers all areas of our water system



Farmers Lane Water Treatment Plant



OUR FUTURE IN EVERY DRÖP

Sonoma County Water Agency - Caissons 1 thru 6 - 2022 Water Quality Report

CLARITY OF WATER FROM GROUNDWATER SOURCES	MCL	Units	Sample Frequency	Caisson 1	Caisson 2	Caisson 3	Caisson 4	Caisson 5	Caisson 6
				average	average	average	average	average	average
				0.030	0.045	0.027	0.023	0.031	0.021
Turbidity ⁽¹⁾	5 ⁽³⁾	NTU	continuous	range (0.023 - 2.0)	range (0.019 - 2.0)	range (0.018 - 2.0)	range (0.018 - 2.0)	range (0.023 - 2.0)	range (0.016 - 0.78)

MICROBIOLOGICAL - Coliform Bacteria	MCL	Units	# Samples	Distribution System Monitoring for 2022
	< 2 positive samples per month	coliforms/100ml	537	0 positive samples
	> 95% per month	detectable residual	654	Detectable residual in 100% of samples taken
Total Trihalomethanes ⁽²⁾ - Tank Samples	0.080	mg/L	72	average = 0.0122 mg/L range = (0.0048 mg/L - 0.0229 mg/L)

VOLATILE ORGANIC COMPOUNDS <i>Section 64444 - Table A</i>	Units	STATE MCL	DLR	PHG (MCLG)	Caisson 1	Caisson 2	Caisson 3	Caisson 4	Caisson 5	Caisson 6
					17-Aug-22	17-Aug-22	16-Aug-22	16-Aug-22	16-Aug-22	17-Aug-22
Benzene	mg/L	0.001	0.0005	0.00015	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	mg/L	0.0005	0.0005	0.0001	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	mg/L	0.6	0.0005	0.6	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	mg/L	0.005	0.0005	0.006	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	mg/L	0.005	0.0005	0.003	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	mg/L	0.0005	0.0005	0.0004	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	mg/L	0.006	0.0005	0.01	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	mg/L	0.006	0.0005	0.013	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	mg/L	0.01	0.0005	0.05	ND	ND	ND	ND	ND	ND
Dichloromethane (Methylene Chloride)	mg/L	0.005	0.0005	0.004	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	mg/L	0.005	0.0005	0.0005	ND	ND	ND	ND	ND	ND
1,3-Dichloropropane (Cis & Trans)	mg/L	0.0005	0.0005	0.0002	ND	ND	ND	ND	ND	ND
Ethylbenzene	mg/L	0.3	0.0005	0.3	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE) ⁽⁴⁾	mg/L	0.013	0.003	0.013	ND	ND	ND	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	mg/L	0.07	0.0005	0.07	ND	ND	ND	ND	ND	ND
Styrene	mg/L	0.1	0.0005	0.0005	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/L	0.001	0.0005	0.0001	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	mg/L	0.005	0.0005	0.00006	ND	ND	ND	ND	ND	ND
Toluene	mg/L	0.15	0.0005	0.15	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	mg/L	0.005	0.0005	0.005	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane (1,1,1-TCA)	mg/L	0.2	0.0005	1.0	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	mg/L	0.005	0.0005	0.0003	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	mg/L	0.005	0.0005	0.0017	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	mg/L	0.15	0.005	1.3	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	mg/L	1.2	0.01	4	ND	ND	ND	ND	ND	ND
Vinyl Chloride (VC)	mg/L	0.0005	0.0005	0.00005	ND	ND	ND	ND	ND	ND
Xylenes (m,p, & o)	mg/L	1.75	0.0005	1.8	ND	ND	ND	ND	ND	ND

⁽¹⁾ Turbidity: **Annual average** is the mean of the monthly average values, weighted by hours of pump operation each month.

Range refers to the minimum and maximum Turbidity readings recorded by the online Turbidimeters at each site.

⁽²⁾ Total Trihalomethanes: 40 CFR Section 141.12 - Is the sum of the concentrations of Bromodichloromethane, Dibromochloromethane, Bromoform, and Chloroform.

⁽³⁾ Secondary Standard.

⁽⁴⁾ Methyl tert-butyl ether (MTBE) is listed in both the Primary (Organic Chemicals - VOCs) and Secondary Standards.

2022 Water Quality Sampling Results

TABLE OF DETECTED CHEMICALS OR CONSTITUENTS IN 2022

Substance (Parameter)	Public Health Goal (MCLG)	DLR	Maximum Contaminant	SONOMA WATER ¹		SANTA ROSA ²		Major Source in Drinking Water
				Range Detected	Reporting Value	Range Detected	Reporting Value	
PRIMARY STANDARDS Detected Regulated Contaminants with Primary MCLs or MRDLs								
INORGANIC CONTAMINANTS								
Fluoride (ppm) ²	1	0.1	2.0	<0.1	<0.1	0.19-0.22	0.2	Erosion of natural deposits
Nitrate (as N ppm)	10	0.4	10	<0.4	<0.4	<0.2	<0.2	Runoff/leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
DISTRIBUTION SYSTEM DETECTIONS 2022								
MICROBIOLOGICAL CONTAMINANTS								
Total Coliform Bacteria from SR Distribution Sys	0		5% of monthly samples	NA	NA	0%-0.74%	0%	Naturally present in the environment
Fecal Coliform and E. coli	0		0	NA	NA	0-1	0	Human and animal fecal waste
Total Trihalomethanes (ppb)	NS		80	7.9-22.9	13.4	22.1-32.9	28.4	By-product of drinking water chlorination
Haloacetic Acids (ppb)	NS		60	2.5-20.1	8.7	1.9-21.7	8.6	By-product of drinking water chlorination
Disinfectant-Free Chlorine (Cl ₂) Residual (ppm)	MRDLG as Cl ₂ 4.0		MRDLG as Cl ₂ 4.0	NA	NA	0.34-1.69	1.1	Disinfectant to control microbes
pH (units) prior to pH adjustment	NS		NS	7.2-7.5	7.3	7.4-8.4	8.2	Sodium Hydroxide addition
LEAD/COPPER RULE 2022 DATA	Monitored at customer's tap.		# of sites exceeding action level=0	# of samples collected=50	# of schools sampled=0			
Copper (ppm)	0.3	0.05	1.3 (AL)	<0.05	<0.05	0.02-0.22	0.086*	Internal corrosion of household plumbing; erosion of natural deposits
Lead (ppb)	0.2	5	15 (AL)	<5.0	<5.0	ND-11.6	1.63*	
LEAD SAMPLING IN SCHOOLS 2019 DATA			# of sites exceeding action level=0	# of samples collected=333	# of schools sampled=31			

2022 Water Quality Sampling Results

Substance (Parameter)	Public Health Goal (MCLG)	DLR	Maximum Contaminant	SONOMA WATER ¹		SANTA ROSA ²		Major Source in Drinking Water
				Range Detected	Reporting Value	Range Detected	Reporting Value	
REGULATED CONTAMINANTS WITH SECONDARY MCLs								
There are no adverse health effects from exceeding the secondary (aesthetic) standards.								
Threshold Odor Number (TON) at 60°C	NS	1	3	<1.0	<1.0	<1.0	<1.0	Naturally occurring organic materials
Chloride (ppm)	NS		500	5.8-23	8.6	15.6-22.0	18.8	Run-off/leaching from natural deposits
Sulfate (ppm)	NS	0.5	500	3.6-16	12.9	<0.5	<0.5	Run-off/leaching from natural deposits
Specific Conductance (umhas/cm)	NS		1600	250-290	264	450-490	470	Substances that form ions when in water
Total Dissolved Solids (ppm)	NS		1000	140-270	156	340-360	350	Run-off/leaching from natural deposits
Color (units)	NS		15	3.0-5.0	3.7	<5.0	<5.0	Naturally occurring organic materials
Manganese (ppb)	NS	20	50	<20-28	<20	3.1-7.3	5.0	Run-off/leaching from natural deposits
ADDITIONAL CONSTITUENTS								
Sodium (ppm)	NS		NS	9.6-37	13.9	47-50.2	48.6	Sodium refers to the salt present in water. It is naturally occurring.
Total Hardness CaCO ₃ (ppm)	NS		NS	56-135	115	137-142	139.5	Erosion of natural deposits
Total Alkalinity CaCO ₃ (ppm)	NS		NS	97-120	112	230-240	235	Erosion of natural deposits
Calcium (ppm)	NS		NS	15-27	23	26.7-27.9	27.3	Erosion of natural deposits
Total Radon 222 (pCi/L) ⁶	NS	100	NS	124-361	181	445-455	450	Found in the soil throughout the U.S.
Temperature °C	NS		NS	NA	NA	10.6-30.8	18.9	Water temp. in Distribution System
UNREGULATED SUBSTANCES								
Unregulated substance monitoring helps EPA and the Division of Drinking Water determine where contaminants occur and if regulation is required.								
Brominated Haloacetic Acids ⁵	NS		NS			ND-2.85	1.2	By-product of drinking water chlorination
Haloacetic Acids (ppb) ⁵	NS		NS			ND-3.6	1.6	By-product of drinking water chlorination
Bromide (ppb) ⁷	NS		NS			ND	ND	Naturally occurring element found in surface and groundwater

Santa Rosa's drinking water meets or exceeds all state and federal drinking water health standards. Your water is tested weekly and the water system is carefully managed to be dependable and safe.

* 90th percentile detected



The United States Environmental Protection Agency (EPA) published the Revised Federal Lead and Copper Rule in December 2021, with an established compliance date of October 2024. The revised rules strengthen regulations for lead and copper to better protect public health. Santa Rosa Water has remained compliant with the existing Lead and Copper Rule and will continue to set the standard and provide the highest quality drinking water for our residents.

Part of this revised federal regulation is to identify the service line material going into your home. To fulfill new federal requirements, the Water Department is actively surveying all property side water service lines installed before 1948, which is the year local construction standards eliminated the use of lead materials in service lines here in Santa Rosa. There is no indication that Santa Rosa Water Department has any full or partial lead water service lines.

The revised rule has a list of requirements all water systems will have to submit, including:

- Submitting an inventory of all service lines by October 16, 2024, including both the public side and the private side.
- Sampling at all schools and childcare facilities—sampling 20 percent annually for 5 years, which is around 170 samples per year.

Questions?

