

2021 Water Quality Report Update

Board of Public Utilities Meeting

June 16, 2022

Tony Llamas, Water Quality Supervisor



OUR FUTURE IN EVERY DROP

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

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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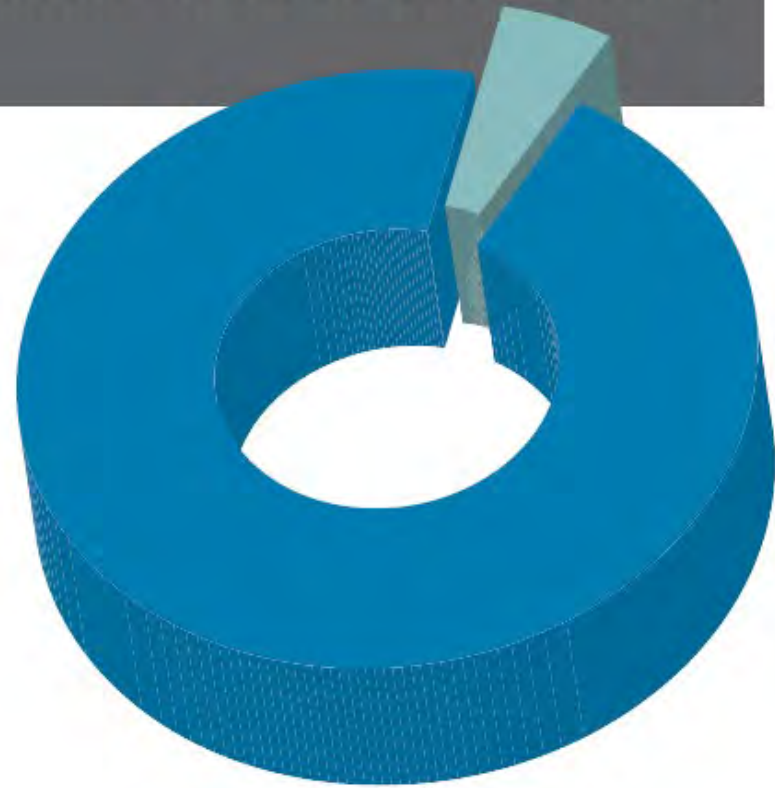
OUR FUTURE IN EVERY DRÖP

Water Supply Portfolio

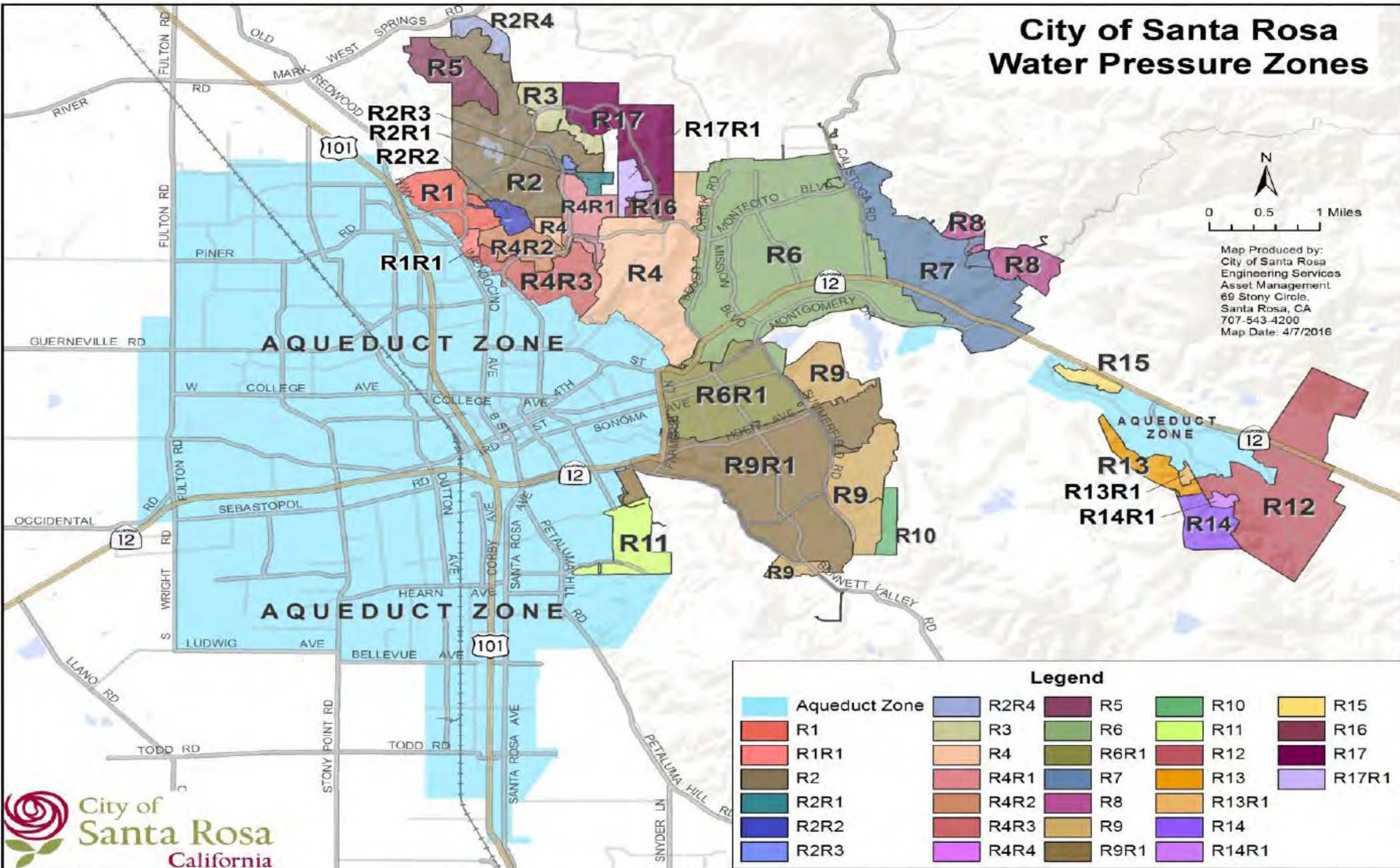
As a Santa Rosa Water customer you are connected to Santa Rosa's public water system. The water supplied to homes and businesses is a combination of surface water from the Russian River and local groundwater.

95% Water Agency
(Russian river)

5% Groundwater

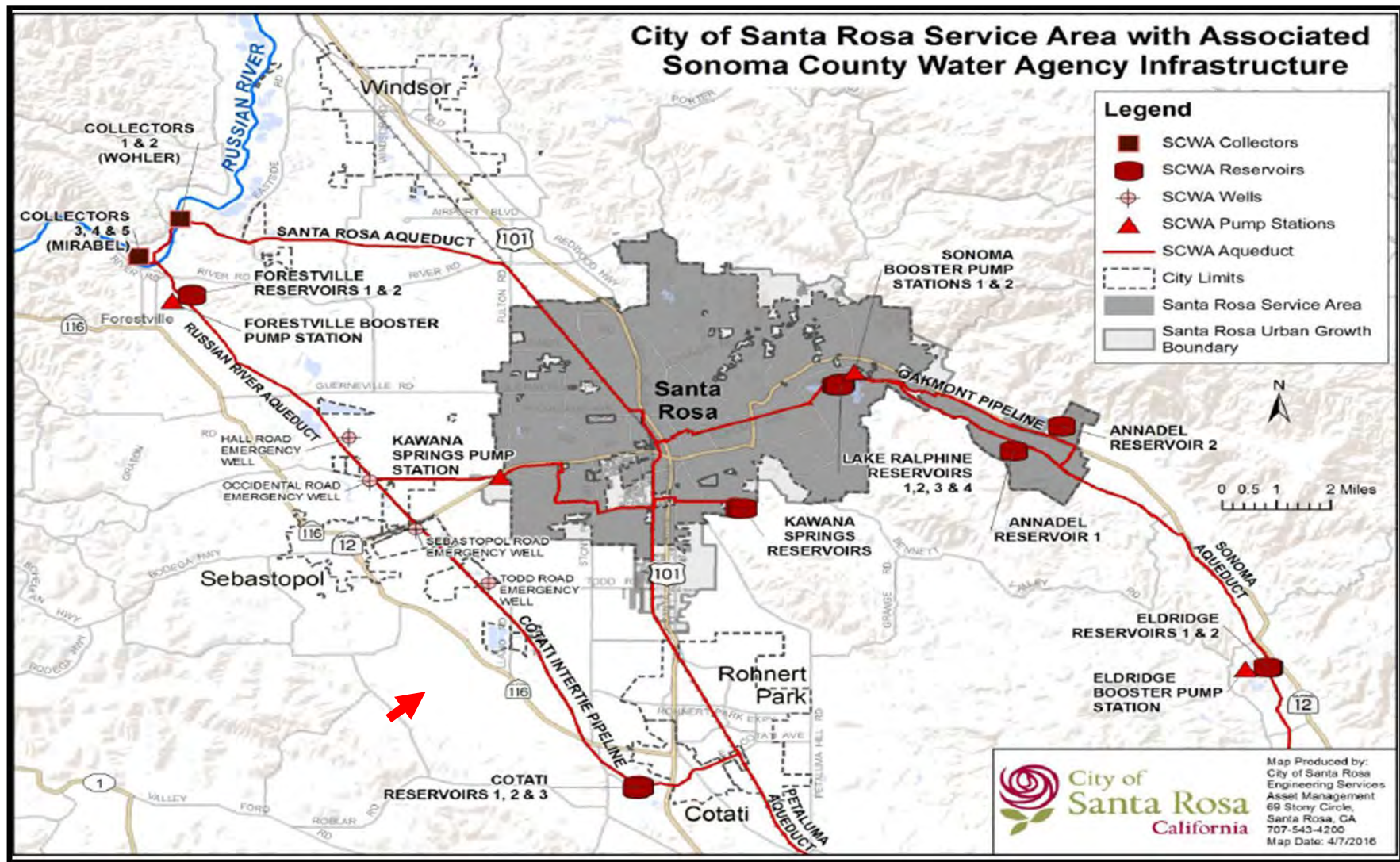


City of Santa Rosa Water Pressure Zones



Sonoma Water Transmission Lines

90 miles of pipelines from 12 to 54 inches



Field Sampling covers all areas of our water system



Farmers Lane Well - Water Treatment Plant



Sonoma County Water Agency - Caissons 1 thru 6 - 2021 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
Turbidity ⁽¹⁾	5 ⁽³⁾	NTU	continuous	average 0.044 range (0.035 - 2.0)	average 0.041 range (0.033 - 2.0)	average 0.024 range (0.009 - 2.0)	average 0.019 range (0.008 - 2.0)	average 0.028 range (0.018 - 2.0)	average 0.032 range (0.012 - 2.0)

MICROBIOLOGICAL - Coliform Bacteria DISINFECTANT - Total Chlorine Residual Total Trihalomethanes ⁽²⁾ - Tank Samples	MCL	Units	# Samples	Distribution System Monitoring for 2021
	< 2 positive samples per month > 95% per month	coliforms/100ml detectable residual mg/L	530 656 72	1 positive sample Detectable residual in 100% of samples taken average = 0.0104 mg/L range = (0.0032 mg/L - 0.0213 mg/L)

VOLATILE ORGANIC COMPOUNDS Section 64444 - Table A	Units	STATE MCL	DLR	PHG { MCLG }	Caisson 1 18-Aug-21	Caisson 2 8-Nov-21	Caisson 3 17-Aug-21	Caisson 4 17-Aug-21	Caisson 5 17-Aug-21	Caisson 6 18-Aug-21
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 ⁽¹¹⁾	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.

⁽¹¹⁾ Caisson 3, result for Vinyl Chloride on 08-17-21 was 0.00508 mg/L. Both resample results (10-06-21 & 10-20-21) were ND (< 0.00050 mg/L).

2021 Water Quality Sampling Results

TABLE OF DETECTED CHEMICALS OR CONSTITUENTS IN 2021

				SONOMA WATER ¹		SANTA ROSA ²		
Substance (Parameter)	Public Health Goal (MCLG)	DLR	Maximum Contaminant Level	Range Detected	Reporting Value	Range Detected	Reporting Value	Major Source in Drinking Water
PRIMARY STANDARDS Detected Regulated Contaminants with Primary MCLs or MRDLs								
INORGANIC CONTAMINANTS								
Fluoride (ppm) ³	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	<0.2	<0.2	<0.2	<0.2	Runoff/leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
DISTRIBUTION SYSTEM DETECTIONS 2021								
MICROBIOLOGICAL CONTAMINANTS								
Total Coliform Bacteria from SR Distribution Sys	0		5% of monthly samples	NA	NA	0%-1.27%	0%	Naturally present in the environment
Fecal Coliform and E. coli	0		0	0	0	0	0	Human and animal fecal waste
Total Trihalomethanes (ppb)	NS		80	0.006-0.02	0.01	15.9-39.2	23.3	By-product of drinking water chlorination
Haloacetic Acids (ppb)	NS		60	3.3-18.9	9.9	5.7-14.1	8.4	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	0.02-1.68	1.13	Disinfectant to control microbes
pH (units) prior to pH adjustment	NS		NS	7.03-7.8	7.4	7.5-8.6	8.2	Sodium Hydroxide addition
LEAD/COPPER RULE 2019 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	0.011-0.171	0.105*	Internal corrosion of household plumbing; erosion of natural deposits
Lead (ppb)	0.2	5	15 (AL)	<5.0	<5.0	0.2-5.3	1.8*	
LEAD SAMPLING IN SCHOOLS	# of sites exceeding action level=0 # of samples collected=333 # of schools sampled=31							

2021 Water Quality Sampling Results

SECONDARY STANDARDS Aesthetic Standards Established by the State Water Resources Control Board's Division of Drinking Water

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	5.5-20	8.5	15.6-22.5	19.0	Run-off/leaching from natural deposits
Sulfate (ppm)	NS	0.5	500	3.6-17	11.3	<0.5	<0.5	Run-off/leaching from natural deposits
Specific Conductance (umhas/cm)	NS		1600	210-270	234	440-520	480	Substances that form ions when in water
Total Dissolved Solids (ppm)	NS		1000	130-240	161	320-340	330	Run-off/leaching from natural deposits
Color (units)	NS		15	3.0-4.0	3.1	ND	ND	Naturally occurring organic materials
Manganese (ppb)	NS	20	50	<20	<20	1.0-6.4	2.8	Run-off/leaching from natural deposits
ADDITIONAL CONSTITUENTS								
Sodium (ppm)	NS		NS	9.3-36	13.3	48.8-51.7	50.2	Sodium refers to the salt present in water. It is naturally occurring.
Total Hardness CaCO ₃ (ppm)	NS		NS	53-126	107	140-143	141.5	Erosion of natural deposits
Total Alkalinity CaCO ₃ (ppm)	NS		NS	97-120	104	220-230	225	Erosion of natural deposits
Calcium (ppm)	NS		NS	14-25	21	25.9-29.1	27.5	Erosion of natural deposits
Total Radon 222 (pCi/L) ⁴	NS	100	NS	98-314	196	445-455	450	Found in the soil throughout the U.S.
Temperature °C (°F)	NS		NS	NA	NA	11 (52) – 29 (84)	19(65)	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
1,4-Dioxane (ppb)	NS		NS	ND-4.2				Solvent or solvent stabilizer used in manufacture and processing

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

Questions?

