

2021 Water Quality Report Update

Board of Public Utilities Meeting

June 16, 2022

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

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



Water Quality Report Distribution

- Press Democrat Ads
- Bill Insert
- Email and E-newsletter
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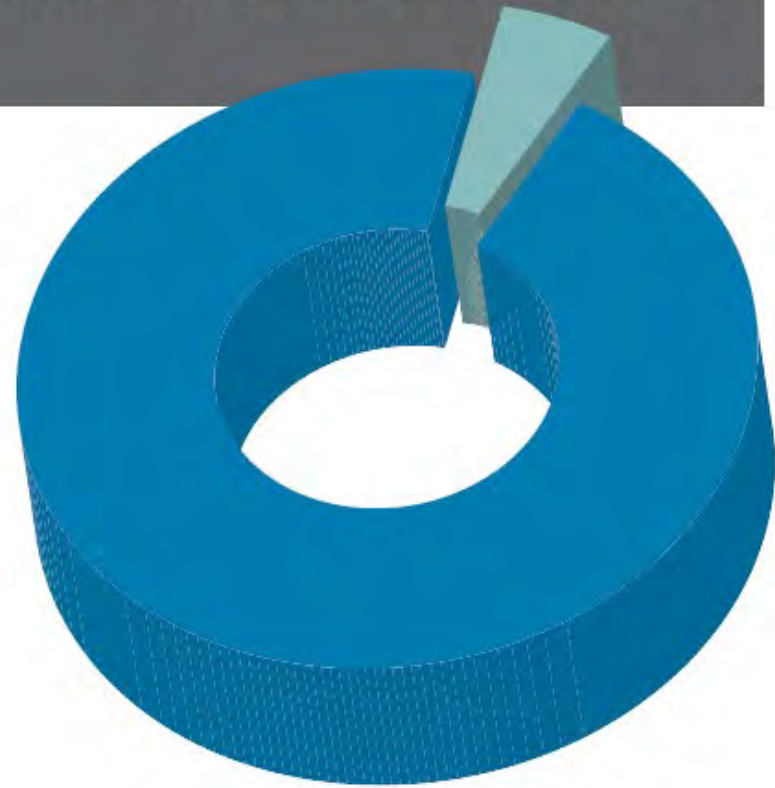
OUR FUTURE IN EVERY DRÖP

Water Supply Portfolio

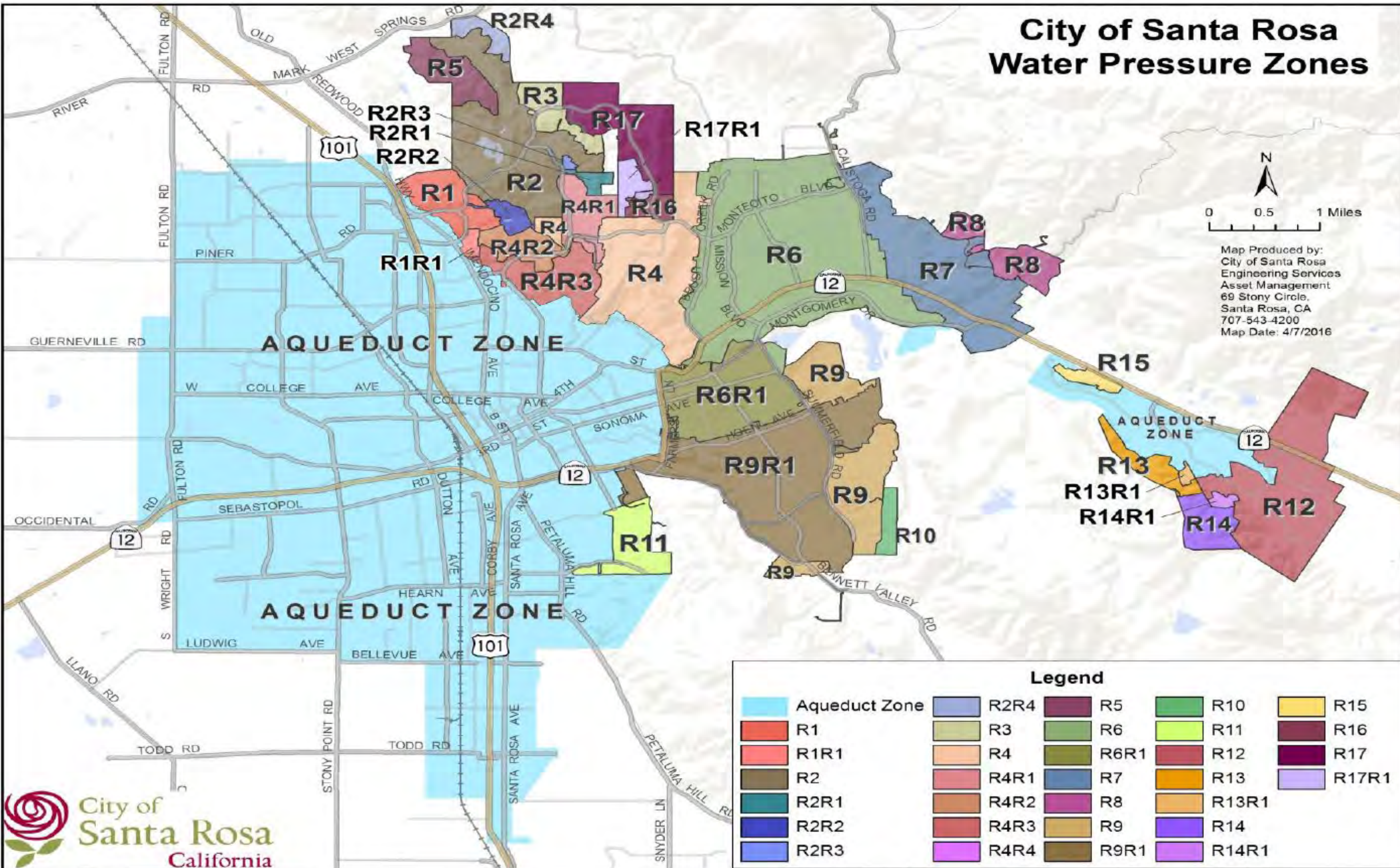
As a Santa Rosa Water customer you are connected to Santa Rosa's public water system. The water supplied to homes and businesses is a combination of surface water from the Russian River and local groundwater.

95% Water Agency
(Russian river)

5% Groundwater



City of Santa Rosa Water Pressure Zones



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 | MCL | Units | # Samples | Distribution System Monitoring for 2021 |
|---|--------------------------------|---------------------|-----------|---|
| DISINFECTANT - Total Chlorine Residual | < 2 positive samples per month | coliforms/100ml | 530 | 1 positive sample |
| Total Trihalomethanes ⁽²⁾ - Tank Samples | > 95% per month | detectable residual | 656 | Detectable residual in 100% of samples taken |
| | 0.080 | mg/L | 72 | average = 0.0104 mg/L range = (0.0032 mg/L - 0.0213 mg/L) |

| VOLATILE ORGANIC COMPOUNDS | Units | STATE MCL | DLR | PHG { MCLG } | Caisson 1 | Caisson 2 | Caisson 3 | Caisson 4 | Caisson 5 | Caisson 6 |
|---|-------|-----------|--------|--------------|-----------|-----------|--------------------|-----------|-----------|-----------|
| <i>Section 64444 - Table A</i> | | | | | 18-Aug-21 | 8-Nov-21 | 17-Aug-21 | 17-Aug-21 | 17-Aug-21 | 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?

