

# **FORESTVILLE WATER DISTRICT**

## **2016 Consumer Confidence Report**

*We test the drinking water quality for many constituents as required by State and Federal Regulations. This report shows the results of our monitoring for the period of **January 1 - December 31, 2016.***

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

### **Water Sources**

Water produced by the Sonoma County Water Agency (Water Agency) originates from the following sources: Six Ranney radial collector wells along the Russian River; seven production wells along the Russian River; and three production wells along the Cotati Aqueduct in the Santa Rosa Plain.

The Ranney radial collector wells (or Caissons) consist of three collectors at Wohler (Caissons 1, 2 and 6) and three collectors at Mirabel (Caissons 3, 4, & 5).

The seven production wells along the Russian River are located at Mirabel between Caisson 5 and Caisson 2. They can deliver water directly into the Santa Rosa Aqueduct, the Cotati Aqueduct, and into Caisson 1. Production wells 1, 4, 6 and 7 are standby wells, and wells 2, 3 and 5 are inactive (disconnected from the system but not destroyed). No water was supplied to the system from these production wells in 2016.

The remaining three production wells are located along the Cotati Aqueduct where it crosses Occidental, Sebastopol, and Todd Roads and are rated as production sources.

The Water Agency has the ability to deliver water between the Santa Rosa and Cotati Aqueducts through the 20" intertie located between Mirabel and Wohler, and the 54" intertie located between the Cotati Aqueduct and Wohler. Water can also be delivered between the two systems through Wilfred Booster Station in Rohnert Park along the Petaluma Aqueduct, operating in either north or south mode, or from west to east from the Cotati Aqueduct to Santa Rosa through the West Transmission Main. Because of these abilities to interchange water, any deliveries by the Water Agency to customers should be considered a blend of water from all sources used. There are two exceptions; the Town of Windsor and the Larkfield-Wikiup community, neither of which can receive water from the three production wells in the Santa Rosa plain under any realistic circumstance.

The Water Agency delivered a total of 13,643,876,123 gallons of water in 2016.

### **Operation of the Santa Rosa Plain Production Wells.**

The Occidental Road Well, Todd Road Well, and Sebastopol Road Well are permitted as production wells.

Outside of the peak demand the Santa Rosa Plain wells were maintained in 2016 with short runs every 60 days without supplying water to the aqueducts, and were typically only run to the aqueduct when water quality sampling was needed.

\*The Occidental Road Well was operated supplying water to the aqueduct in October, 2016. Annual production was 2.314 million gallons total, an average of 0.031% of water flowing into the Cotati Aqueduct. The monthly flows, and the percentage of the total Cotati Aqueduct flow, are as follows:

\*The Todd Road Well was operated supplying water to the aqueduct in August, September, and November 2016. Annual production was 4.991 million gallons total, an average of 0.067% of water flowing into the Cotati Aqueduct. The monthly flows, and the percent of total Cotati Aqueduct flow, are as follows:

\*The Sebastopol Road Well was operated supplying water to the aqueduct in March, June, September, and December 2016. Annual production was 16.314 million gallons total, an average of 0.218% of water flowing into the Cotati Aqueduct. The monthly flows are as follows:

### **Water Monitoring Requirements:**

After reviewing data collected by the Water Agency, the State currently classifies Caisson 5 as being under the direct influence of surface water when: 1.) the flow in the Russian River at Hacienda Bridge reaches 5,000 cfs and 2.), until the flow at the Hacienda Bridge drops below 2,000 cfs. During periods that the Russian River flows meet these criteria, Caisson 5 must be operated under the State's Surface Water Treatment Regulations (SWTR). It is the Water Agency's standard operating procedure to never operate Caisson 5 under the SWTR. **Caisson 5 was not operated under SWTR any time during 2015.**

Caissons 1 through 4 and 6 are **not** under the direct influence of surface water and, therefore, are not subject to the State's Surface Water Treatment Regulations. For sampling purposes, however, the State requires the Water Agency to sample the Caissons at the same frequency as surface water sources.

### **Analytical Results:**

The water quality report is broken up into five parts:

- 1.) Results for Caissons 1-6.
- 2.) Results for Production Wells 1, 4, 7 and Occidental, Todd, and Sebastopol Wells.
- 3.) Result summary for tank Haloacetic Acids.
- 4.) Result summary for tank Total Trihalomethanes.
- 5.) Tank results for Volatile Organic Compounds.

**The Board of Directors for the Forestville Water District** meets the second Tuesday of each month at 5:30 PM in the District office. Please feel free to participate in these meetings. We want our customers to be informed about their water quality.

### **TERMS USED IN THIS REPORT:**

**Maximum Contaminant Level (MCL):** 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 are set to protect the odor, taste, and appearance of drinking water. Blanks indicate no numerical values have been established.

**Maximum Contaminant Level Goal (MCLG):** 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. Environmental Protection Agency (USEPA). Blanks indicate no numerical values have been established.

**Public Health Goal (PHG):** 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 Environmental Protection Agency.

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

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

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

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

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

**Variations and Exemptions:** State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.

**Level 1 Assessment:** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment:** A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**ND:** not detectable at testing limit

**ppm:** parts per million or milligrams per liter (mg/L)

**ppb:** parts per billion or micrograms per liter (ug/L)

**ppt:** parts per trillion or nanograms per liter (ng/L)

**ppq:** parts per quadrillion or picogram per liter (pg/L)

**pCi/L:** picocuries per liter (a measure of radiation)

**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.

**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 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 that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- *Radioactive contaminants* that can be naturally-occurring or be the result of oil and gas production and mining activities.

**In order to ensure that tap water is safe to drink**, the USEPA 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. State Board regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

**Tables 1, 2, 3, 4, 5, and 6 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent.** The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old. Any violation of an AL, MCL, MRDL, or TT is asterisked. Additional information regarding the violation is provided later in this report.

**TABLE 1 - SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA**

Microbiological Contaminants (to be completed only if there was a detection of bacteria )	Highest No. of detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	0 (In a mo.)	0	More than 1 sample in a month with a detection	<2 (In a mo.)	Naturally present in the environment
Fecal Coliform or <i>E. coli</i>	0 (In the year)	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or <i>E. coli</i>	0	Human and animal fecal waste

**TABLE 2 - SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER**

Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	No. of samples collected	90 <sup>th</sup> percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Contaminant
** Lead (mg/L)	10	<0.005	0	0.015	200	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
** Copper (mg/L)	10	<0.05	0	1.3	300	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

TABLE 3 - SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Sodium (mg/L)	8/30/2016 8/31/2016	8.66 (average)	7.9 – 9.5.0	none	none	“Sodium” refers to the salt present in the water and is generally naturally occurring.
Total Hardness as CaCO3 (mg/L)	8/30/2016 8/31/2016	.01 (average)	93 - 112	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

TABLE 4 - DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Contaminant
Aluminum (ug/L)	8/30/2016 8/31/2016	71.7 (average)	49.0-140.0	1000	600	Erosion of natural deposits; residue from some surface water treatment process.
Chromium, Hexavalent (CrVI) (ug/L)	8/30/2016 8/31/2016	<0.50> (average)	<0.50 – 0.56	10	0.02	Internal corrosion of galvanized pipes; erosion of natural deposits; discharge from electroplating and industrial chemical factories, and metal refineries; runoff from waste batteries and paints
Fluoride (F) (mg/L)	8/30/2016 8/31/2016	0.10	<0.10 - 0.17	2.0	1.0	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.

TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (mg/L)	8/30/2016 8/31/2016	5.4 (average)	5.1 – 6.2	500 (mg/L)	None	Runoff/leaching from natural deposits; seawater influence
Color (color units)	8/30/2016 8/31/2016	3.9 (average)	<3.0 – 8.0	15 (units)	None	Naturally-occurring organic materials
Iron (ug/L)	8/30/2016 8/31/2016	132 (average)	<100 - 510	300	100	Leaching from natural deposits; industrial wastes
Manganese (ug/L)	8/30/2016 8/31/2016	24.3 (average)	<20 – 72.0	50 (ug/L)	None	Leaching from natural deposits
Odor - Threshold (TON)	8/30/2016 8/31/2016	.91 (average)	<1.0 – 1.5	3 (units)	None	Naturally-occurring organic materials
Specific Conductance (uS/cm)	8/30/2016 8/31/2016	251 (average)	230 - 290	1600 (uS/cm)	None	Substances that form ions when in water; seawater influence
Sulfate (mg/L)	8/30/2016 8/31/2016	13.8 (average)	12.0 – 19.0	250	500	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (mg/L)	8/30/2016 8/31/2016	142.1 (average)	71 - 170	500	1000	Runoff/leaching from natural deposits
Turbidity (NTU)	Continuous	0.04 (average)	0.035 – 0.047	5 (units)	None	Soil runoff.

<b>DETECTION OF ADDITIONAL CONSTITUENTS ANALYZED</b>						
<b>Chemical or Constituent</b> (and reporting units)	<b>Sample Date</b>	<b>Level Detected</b>	<b>Range of Detections</b>	<b>MCL</b>	<b>PHG (MCLG)</b>	<b>Typical Source of Contaminant</b>
Aggressiveness Index	8/30/2016 8/31/2016	10.37 (average)	10.53–11.95	None	None	
Bicarbonate as CaCO <sub>3</sub> (mg/L)	8/30/2016 8/31/2016	129.5 (average)	120 – 150	None	None	
Calcium (mg/L)	8/30/2016 8/31/2016	18.05 (average)	10 – 23	None	None	
Magnesium (mg/L)	8/30/2016 8/31/2016	9.85 (average)	2.0 – 16.0	None	None	
pH (units)	8/30/2016 8/31/2016	7.46 (average)	7.1 – 8.37	None	None	
Potassium (mg/L)	8/30/2016 8/31/2016	0.92 (average)	<1.0 – 1.1	None	None	
Total Alkalinity as CaCO <sub>3</sub> (mg/L)	8/30/2016 8/31/2016	104.9 (average)	96 - 120	None	None	
Total Radon (222+/- Counting Error) (pCi/L)	8/30/2016 8/31/2016	162.6 (average)	99.1 – 325	None	None	Erosion of natural deposits

### **Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors**

<b>Chemical or Constituent</b> (and reporting units)	<b>Sample Date</b>	<b>Level Detected</b>	<b>Range of Detections</b>	<b>MCL</b>	<b>PHG (MCLG)</b>	<b>Typical Source of Contaminant</b>
TTHMs (Total Trihalomethanes) (mg/L)	(See Note #2 below)	0.0119 (average)	0.0109 – 0.0129	0.080	N/A	By-product of drinking water disinfection
Haloacetic Acids (ug/L)	(See Note #2 below)	4.13 (average)	1.53 –8.43	60	N/A	By-product of drinking water disinfection

### **Additional General Information on Drinking Water**

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* & other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

**Lead-Specific Language for Community Water Systems:** 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. FWD is responsible for providing high quality drinking water, but 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. [Optional: 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 (1-800-426-4701) or at <http://www.epa.gov/lead>.

**Summary Information for Contaminants Exceeding an MCL, MRDL, or AL, or a Violation of Any Treatment Technique or Monitoring and Reporting Requirement**

**For Systems Providing Surface Water as a Source Of Drinking Water:**

(\*\*\*N/A: See explanation under "Water Monitoring Requirements" on page 1. All sources were run as groundwater in 2016.)

<b>TABLE 7 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES</b>	
Treatment Technique <sup>(a)</sup> (Type of approved filtration technology used)	*** (N/A)
Turbidity Performance Standards <sup>(b)</sup> (that must be met through the water treatment process)	<u>Turbidity of the filtered water must:</u> *** (N/A) 1 – Be less than or equal to ____ NTU in 95% of measurements in a month. 2 – Not exceed ____ NTU for more than eight consecutive hours. 3 – Not exceed ____ NTU at any time.
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1.	*** (N/A)
Highest single turbidity measurement during the year	*** (N/A)
Number of violations of any surface water treatment requirements	*** (N/A)

\* Any violation of a TT is marked with an asterisk. Additional information regarding the violation is provided earlier in this report.

- (a) A required process intended to reduce the level of a contaminant in drinking water.  
 (b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.

**Summary Information for Surface Water Treatment**

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(cc: 6-30-2017 - a NOTICE was mailed to each FWD Water Customer with their May/June 2017 water bills announcing the availability of this 2017 CCR Report @ [www.forestvillewd.com](http://www.forestvillewd.com).)

**2017 Water Conservation**

Although the Governor has lifted the Emergency Drought Declaration, and the rivers and reservoirs in Sonoma County are at or near capacity, it still remains vitally important for all customers to continue to conserve water where they can. An easy way to tell if you are being efficient in your water usage is to determine the gallons per day per person that you use in the winter time. Refer to your winter bill and divide the total water usage by the number of days in the bill then divide that by the number of occupants in your home. If you use more than 50 gallons per day per person, there is still conservation that you can achieve. During the summer months it is important to irrigate only when needed (2 times per week or less) and to consider replacing your landscaping to low-water-use plants and utilize drip irrigation systems.