

## 2021 Consumer Confidence Report

### ROOT CREEK WATER DISTRICT

#### Water System Information

Water System Name: Riverstone / Root Creek W.D.

Report Date: June 6, 2022

Type of Water Source(s) in Use: Ground Water

Name and General Location of Source(s): Wells #1, #2, and #4 are located within the Root Creek Water District boundaries in Madera County, California.

Drinking Water Source Assessment Information: A source water assessment was completed for the sources delivering water to the distribution system. Source assessment information is kept on file at the Operator's office located at 5105 E. Belmont Ave., Fresno, California 93727. If you have questions regarding these assessments, contact the office or make an appointment during business hours: Monday – Friday, 8:00 a.m. to 5:00 p.m.

Meetings for Public Participation: 2<sup>nd</sup> Monday of each Month at 11:00 a.m. Root Creek WD Board of Director's meetings are held at the Riverstone Lodge located at 370 S. Lodge Rd, Madera, CA 93636.

For More Information, Contact: Steve Pickens or Shay Bakman (559) 255-2305

#### About This 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 to December 31, 2021 and may include earlier monitoring data.

*This report contains important information about your drinking water. Please contact Riverstone/Root Creek WD at (559) 255-2305 for more information or assistance in the appropriate language.*

*Este informe contiene información muy importante sobre su agua para beber. Favor de comunicarse Riverstone/Root Creek WD a (559) 255-2305 para asistirlo en español.*

*这份报告含有关于您的饮用水的重要讯息。请用以下地址和电话联系 Riverstone/Root Creek WD 以获得中文的帮助: (559) 255-2305.*

*Ang pag-uulat na ito ay naglalaman ng mahalagang impormasyon tungkol sa inyong inuming tubig. Mangyaring makipag-ugnayan sa Riverstone/Root Creek WD o tumawag sa (559) 255-2305 para matulungan sa wikang Tagalog.*

*Báo cáo này chứa thông tin quan trọng về nước uống của bạn. Xin vui lòng liên hệ Riverstone/Root Creek WD tại (559) 255-2305 để được hỗ trợ giúp bằng tiếng Việt.*

*Tsab ntawv no muaj cov ntsiab lus tseem ceeb txog koj cov dej haus. Thov hu rau Riverstone/Root Creek WD ntawm (559) 255-2305 rau kev pab hauv lus Askiv.*

## Terms Used in This Report

Term	Definition
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 <i>E. coli</i> MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
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.
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 (U.S. EPA).
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.
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.
Regulatory Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
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.
Variations and Exemptions	Permissions from the State Water Resources Control Board (State Board) to exceed an MCL or not comply with a treatment technique under certain conditions.
ND	Not detectable at testing limit.
ppm	parts per million or milligrams per liter (mg/L)
ppb	parts per billion or micrograms per liter (µg/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)

## Sources of Drinking Water and Contaminants that May Be Present in Source 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.

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.

## Regulation of Drinking Water and Bottled Water Quality

In order to ensure that tap water is safe to drink, the U.S. EPA and the 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.

## About Your Drinking Water Quality

### Drinking Water Contaminants Detected

Tables 1, 2, 3, 4, 5, 6, and 8 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	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
<i>E. coli</i>	(2021) 0	0	(a)	0	Human and animal fecal waste

(a) Routine and repeat samples are total coliform-positive and either is *E. coli*-positive or system fails to take repeat samples following *E. coli*-positive routine sample or system fails to analyze total coliform-positive repeat sample for *E. coli*.

**Table 1.A. Compliance with Total Coliform MCL between January 1, 2021 and June 30, 2021**

Microbiological Contaminants	Highest No. of Detections	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	(In a month) 2*	2*	1 positive monthly sample (a)	0	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	(2021) 0	0	0	None	Human and animal fecal waste

(a) For systems collecting fewer than 40 samples per month: two or more positively monthly samples is a violation of the total coliform MCL.

\*A Level 1 Assessment was performed by the SWRCB and RCWD Operator; no deficiencies were found and all bacteriological samples after April 2021 have been absent for Total Coliform.

**Table 2. Sampling Results Showing the Detection of Lead and Copper**

Lead and Copper	Sample Date	No. of Samples Collected	90 <sup>th</sup> Percentile Level Detected	No. Sites Exceeding AL	AL	PHG	No. of Schools Requesting Lead Sampling	Typical Source of Contaminant
Lead (ppb)	6/17/21	20	4.2	0	15	0.2	0	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm)	8/11/21	20	.120	0	1.3	0.3	N/A	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 (reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	2019	43	26 – 69	None	None	Salt present in the water and is generally naturally occurring
Hardness (ppm)	2021	154	100 - 260	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 (reporting units)	Sample Date	Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source Of Contaminant
Fluoride (ppm)	2019	0.11	0 – 0.20	2.0	1	Erosion of natural deposits, water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Aluminum (ppm)	2019	0.036	0 - 0.1	1	0.6	Erosion of natural deposits; residual from surface water treatment processes
Arsenic (ppb)	2019	4.47	3.4 - 5.5	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics productions waste
Barium (ppm)	2019	0.233	0.17 - 0.14	1	2	Erosion of natural deposits; Discharge of oil drilling waste and from metal refineries
Chromium [Total] (ppb)	2019	2.77	1.7 - 4.3	50	(100)	Discharge from steel and pulp mills; chrome plating; erosion from natural deposits
Nickle (ppb)	2019	0.67	0 - 2	100	12	Erosion of natural deposits; discharge from metal factories

Selenium (ppb)	2019	1.57	1.1 – 2.3	50	30	Discharges from petroleum, glass and metal refineries; erosion of natural deposits; discharges from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Nitrate as N (ppm)	2021	2.43	0 - 3.80	10	10	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Nitrite as N (ppm)	2019	0.23	0 - 0.70	1	1	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Gross Alpha Particle Activity (pCi/L)	2020	± 1.96	± <3 - 4	15	(0)	Erosion of natural deposits
Combined Radium 226 & 228 (pCi/L)	2018	± 1.78 0.64	+ .685 – 3.19 0.54 – 0.725	5	(0)	Erosion of natural deposits
Total TTHM (ppb)	2021	5.4	2 – 5.4	80	N/A	Byproduct of drinking water disinfection
Total HAA5 (ppb)	2021	1	0 - 1	60	N/A	Byproduct of drinking water disinfection

**Table 5. Detection of Contaminants with a Secondary Drinking Water Standard**

Chemical or Constituent (reporting units)	Sample Date	Level Detected	Range of Detections	SMCL	PHG (MCLG)	Typical Source Of Contaminant
Aluminum (ppb)	2019	36.1	0 - 100	200	N/A	Erosion of natural deposits; residual from surface water treatment processes
Chloride (ppm)	2019	113	50 - 230	500	N/A	Runoff leaching from natural deposits, sea water intrusion
Color (units)	2021	3.83	0 - 10	15	N/A	Naturally occurring organic material

Copper (ppm)	2019	0.082	0 – 0.190	1	N/A	Erosion of natural deposits; leaching from wood preservatives
Iron (ppb)	2021	249.64	0 – 1,100	300	N/A	Leaching from natural deposits; industrial waste
Manganese (ppb)*	2021	144*	0 - 610	50	N/A	Leaching from natural deposits
Odor Threshold @ 60c (TON)	2019	1.5	1 – 2.5	3	N/A	Naturally occurring organic material
Specific Conductance (µS/cm)	2019	540	390 – 840	1,600	N/A	Substances that form ions when in water; sea water influence
Sulfate (ppm)	2019	7.83	3 – 14	500	N/A	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (ppm)	2019	406.67	290 - 630	1,000	N/A	Runoff/leaching from natural deposits
Turbidity (NTU)	2021	0.97	0.19 - 2.3	5	N/A	Soil run off
Zinc (ppm)	2019	0.009	0 - 0.017	5.0	N/A	Runoff/leaching from natural deposits; industrial wastes
Lead @ Well Head (ppb)	2019	3.9	0 – 7.1	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

**Table 6. Detection of Unregulated Contaminants**

Chemical or Constituent (reporting units)	Sample Date	Level Detected	Range of Detections	Notification Level	Health Effects
Total Alkalinity (ppm)	2019	80	75 - 90	N/A	N/A
Aggressive Index (Corrosivity)	2019	11	11 - 12	N/A	N/A
Potassium (ppm)	2019	5.53	5.2 - 5.8	N/A	N/A

### 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 U.S. EPA'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. U.S. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

**Lead-Specific Language:** 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. Riverstone / Root Creek WD 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 (1-800-426-4791) or at <http://www.epa.gov/lead>.

**Arsenic-Specific Language:** 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 cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency 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.

**TTHM and HAA5 byproduct of chlorination disinfection:** Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer.

**Iron & Manganese MCL:** Iron was found at levels that exceed the secondary MCL of 300 µg/L in Well #4. The Iron MCL was set to protect you against unpleasant aesthetic effects (e.g., color, taste, and odor) and the staining of plumbing fixtures (e.g., tubs and sinks) and clothing while washing. The high Iron levels are due to leaching of natural deposits. Root Creek WD only minimally used Well #4 in 2021 due to its high levels of Iron. Well #1 and Well #2 were primarily used to meet demands. Therefore, the RAA was under the MCL of 300 µg/L for Iron. Manganese was found at levels that exceed the secondary MCL of 50 µg/L in Wells #1, #2, and #4. Manganese exposures resulted in neurological effects. High levels of manganese in people have been shown to result in adverse effects to the nervous system. Root Creek WD is injecting a sequestering agent to help control the aesthetics effects of the Iron and Manganese.

This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2021. These revisions add the requirements of the federal Revised Total Coliform Rule, effective since April 1, 2016, to the existing state Total Coliform Rule. The revised rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and *E. coli* bacteria). The U.S. EPA anticipates greater public health protection as the rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system. The state Revised Total Coliform Rule became effective July 1, 2021.