



2022 Annual Water Quality Report

Rubio Cañon Land and Water Association

Rubio Cañon Land and Water Association (RCLWA) is a mutual water company established in 1886 located in the unincorporated town of Altadena, in Los Angeles County, California. For 137 years, RCLWA has supplied potable drinking water to the central and eastern portions of Altadena, north of Pasadena. The approximate population is 9,600 people served by approximately 3,140 water service connections. A five-member Board of Directors governs RCLWA. The mission of RCLWA is to provide shareholders within its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. In addition to supplying high-quality water, RCLWA is continuing to upgrade its infrastructure to ensure that your water will be reliably available. We are doing this by evaluating our system of pipes and replacing them through improvement projects throughout the year.

Conserving Our Most Precious Resource

Altadena is a semi-desert area that depends on limited supplies of imported water to supplement the local water. Water conservation remains the most responsible way to reduce our demand for water and conserve our water supply. In accordance with state mandates, the most impactful action to extend available water supplies is to reduce water use by 20%. The following conservation measures are in place:

- No hosing down driveways, sidewalks or other paved surfaces.
- No irrigating turf or landscapes during and 48 hours following measurable rain.
- Adjust sprinklers and irrigation systems to avoid overspray, runoff, and waste.
- Shut off decorative fountains, ponds, and other similar aesthetic features, unless a water recycling system is used.
- Use a hose that is fitted with a shut-off nozzle.
- Customers must routinely check faucets, toilets, and pipes for leaks and repair them.
- Outside irrigation allowed up to 2 days per week.

(no restrictions on the days of the week) Please irrigate before 9:00 am or after 5:00 pm.

www.rclwa.org | www.bewaterwise.com | www.saveourwater.com.

RCLWA provides potable drinking water via groundwater wells, a conventional treatment plant, and from an imported source. The imported source water is obtained from Foothill Municipal Water District, a member agency of the Metropolitan Water District of Southern California. Typically, we do not operate our wells between November through April. We import water almost exclusively during this period since purchased water is historically more readily available during the winter months. During the remaining months we operate our wells as the primary source of potable drinking water. By pumping our wells during the summer months, we can save operating costs. RCLWA's treatment plant treats water that is acquired from the local foothill area. In 2022, RCLWA pumped 1,230 acre-feet, treated 94 acre-feet of water, and imported 565 acre-feet of water. An acre-foot of water is equal to 325,829 gallons.

Water Quality Monitoring

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. To be certain that tap water is safe to drink, the USEPA and the State Water Resources Control Board (SWRCB) prescribe regulations that limit the number of certain contaminants in water provided by public water systems.

In 2022, RCLWA conducted thousands of water quality tests for more than 100 different contaminants. We test weekly, monthly, quarterly, annually, and every three years depending on the constituent. All water quality samples are pulled by specially trained and state-certified operators and analyzed by state-certified independent laboratories. Once again, we are pleased to report the water delivered to your home or business complied with, or exceeded all State and Federal Drinking Water requirements. It is important that you know what was detected and how much of the substance was present in the water. For your information, the following tables have been compiled to show what substances were detected in RCLWA's water supplies during 2022. The State allows RCLWA to monitor some contaminants less than once per year due to the concentrations of these contaminants infrequent changes. Some data, though representative, are more than one year old.

People With Sensitive Immune Systems

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. When ingested, the organism may cause nausea, diarrhea, and other gastrointestinal symptoms. The organism comes from animal wastes and may be found in surface watersheds. Water purchased from the Metropolitan Water District of Southern California via Foothill Municipal Water District was tested for Cryptosporidium in 2022 and it was not detected in the water. If detected, Cryptosporidium is eliminated by an effective treatment combination including sedimentation, filtration, and disinfection.

Some people may be more vulnerable to constituents in the water than the general population. Immunocompromised people, such as those with cancer undergoing chemotherapy, persons with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk of infections. These people should seek advice from their healthcare provider about their drinking water. The USEPA and the Centers for Disease Control have guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants, which are available through the USEPA's Safe Drinking Water Hotline at (800) 426-4791, and online at <http://water.epa.gov/drink/hotline/>.

Surface Water Quality Data

	RCLWA	MWD Purchased Water	
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Parameter	MCL	PHG (MCLG)	Average Amount	Range of Detection	Average Amount	Range of Detection	MCL Violations	Typical Source of Contaminant
Radiological								
Alpha Radiation (pCi/L)	15.0	0	13 ^(A)	10 - 16	ND	ND - 4	No	Erosion of natural deposits
Uranium (pCi/L)	20.0	1.0	17.3	0 - 20	2	1 - 3	No	Erosion of natural deposits
Radium 226 & 228 (pCi/L)	5.0	0	ND	ND	ND	ND	No	Erosion of natural deposits
Organic Chemicals								
1,2,3 - Trichloropropane (ug/L)	5.0	0.7	ND	ND	ND	ND	No	Degreasing solvent associated with pesticides
Inorganic Chemicals								
Aluminum (ug/L)	200	600	ND	0 - 200	156	58 - 240	No	Residue from water treatment process
Arsenic (ug/L)	10.0	.004	0.67	0 - 10	ND	ND	No	Erosion of natural deposits
Fluoride (mg/L) ^(A)	2.0	1.0	2.27 ^(A)	1.2 - 2.6	0.7	0.4 - 0.9	No	Erosion of natural deposits
Nitrate as N (mg/L as NO3-N)	10	10	0.89	0.5 - 3.8	ND	ND	No	Erosion of natural deposits
Secondary Standards ^(B)								
Chloride (mg/L)	500	N/A	6.17 ^(B)	4.8 - 12	102	98 - 106	No	Runoff or leaching from natural deposits
Zinc (mg/L)	5	N/A	ND ^(B)	ND	ND	ND	No	Runoff or leaching from natural deposits
Specific Conductance (us/cm)	1600	N/A	380 ^(B)	345 - 425	992	964 - 1,020	No	Substances that form ions in water
Sulfate (mg/L)	500	N/A	29 ^(B)	18 - 39	222	212 - 232	No	Runoff or leaching of natural deposits
Iron (ug/L)	300	N/A	ND ^(B)	0 - 300	ND	ND	No	Leaching from natural deposits
Manganese (ug/L)	50	NL=500	ND ^(B)	N/D - 3.0	ND	ND	No	Leaching from natural deposits
Total Dissolved Solids (mg/L)	1000	N/A	243 ^(B)	200 - 300	638	632 - 643	No	Runoff or leaching of natural deposits

A) High Fluoride and Alpha Radiation in local surface water are blended with groundwater to reduce Fluoride and Alpha Radiation below the MCL. MCL compliance is determined by measuring Fluoride (weekly) and Alpha Radiation (Quarterly) at a representative location within the distribution system. **B)** The parameter is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Unregulated Parameters Requiring Monitoring								
Sodium (mg/L)	N/A	N/A	17	14 - 19	100	98 - 103	No	Runoff or leaching from natural deposits
Hardness (mg/L)	N/A	N/A	177	140 - 230	279	277 - 281	No	Runoff or leaching from natural deposits
Perchlorate (ug/L)	6	1	ND	ND	ND	ND	No	Industrial waste discharge
Alkalinity (mg/L)	N/A	N/A	157	120 - 165	127	126 - 128	N/A	Runoff or leaching from natural deposits
Chromium VI (ug/L)	10	0.02	ND	ND	ND	ND	No	Industrial waste discharge

Turbidity - combined filter effluent	Treatment Technique	Turbidity Measurement	Turbidity Measurement	TT Violations	Typical Source of Contaminant
Highest Single Measurement	5.0 NTU	ND	ND	No	Soil run-off
Percentage less than 0.5 NTU	95 %	100 %	100 %	No	Soil run-off

Disinfection By-Products								
Parameter	MCL	Average Amount	Range of Detection	Average Amount	Range of Detection	MCL Violations	Typical Source of Contaminant	
Total Trihalomethanes (ug/L)	80	ND	ND	29	21 - 32	No	Byproducts of drinking water chlorination	
Haloacetic Acids (five)(ug/L)	60	N/A	N/A	ND	ND - 7.6	No	Byproducts of drinking water chlorination	
Haloacetic Acids (five) system (ug/L)	60	7.31	ND-16	9.6	ND - 15	No	Byproducts of drinking water chlorination	
Chlorine Residual (mg/L)	4	1.71	1.4 - 2.7	2.5	0.4 - 2.9	No	Drinking water disinfectant added for treatment	

The Information Collection Rule (ICR) is a multi-year national program administered by the U.S. Environmental Protection Agency. The primary purpose of the ICR is to gather nationwide occurrence data on chemicals that may be formed during drinking water disinfection. The results of the ICR will assist the EPA in regulating many of these disinfection by-products over the next few years.

Groundwater Quality Data

Parameter	MCL	PHG (MCLG)	Average Amount	Range of Detection	MCL Violation	Most Recent Sample Date	Typical Source of Contaminant
Organic Chemicals							
Tetrachloroethylene (PCE) (ug/L)	5	0.06	2.56	0 - 5	No	2022	Discharge from factories, dry cleaners, and auto shops
MTBE (ug/L)	13	13	ND	ND	No	2022	Gasoline discharge from watercraft engines
1,2,3 - Trichloropropane (ug/L)	5	0.7	ND	ND	No	2022	Degreasing solvent associated with pesticides
Inorganic Chemicals							
Nitrate as N (mg/L as NO3-N)	10	10	5.74	3.2 - 6.2	No	2022	Erosion of natural deposits
Arsenic (ug/L)	10	N/A	ND	ND	No	2022	Erosion of natural deposits
Fluoride (mg/L)	2	1	0.78	0.40 - 0.54	No	2022	Erosion of natural deposits
Aluminum (ug/L)	1000	(50)	ND	ND	No	2022	Erosion of natural deposits
Secondary Standards*							
Chloride (mg/L)	500*	N/A	49	38 - 59	No	2022	Erosion of natural deposits
Specific Conductance (us/cm)	1600*	N/A	750	630 - 870	No	2022	Erosion of natural deposits
Sulfate (mg/L)	500*	N/A	65	52 - 78	No	2022	Erosion of natural deposits
Total Dissolved Solids (mg/L)	1000*	N/A	485	400 - 570	No	2022	Erosion of natural deposits

* Parameter is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Unregulated Parameters Requiring Monitoring							
Parameter	MCL	PHG (MCLG)	Average Amount	Range of Detection	MCL Violation	Most Recent Sample Date	Typical Source of Contaminant
Perchlorate (ug/L)	6	6	2.13	ND - 3.0	No	2022	Industrial waste discharge
Sodium (mg/L)	Not Regulated	N/A	28	24 - 32	N/A	2022	Erosion of natural deposits
Hardness (mg/L)	Not Regulated	N/A	360	280 - 440	N/A	2022	Erosion of natural deposits
Boron (ug/L)	Not Regulated	N/A	165	ND - 170	N/A	2022	Runoff/leaching from natural deposits
Vanadium (ug/L)	Not Regulated	N/A	3.75	ND - 4.3	N/A	2022	Naturally occurring / Industrial waste discharge
Chromium VI (ug/L)	10	0.02	ND	ND - 1.8	N/A	2022	Industrial waste discharge

Parameter	Primary MCL	Average Amount	Range of Detection	MCL Violation	Typical Source of Contamination
Nitrate (as N) (mg/L)	10	5.5	3.2 - 5.6	No	Fertilizers, septic tanks
Fluoride (mg/L)*	2	0.78	0.5 - 2.0	No	Naturally present in groundwater
Total Trihalomethanes (ug/L)	80	ND	ND - 30	No	Byproducts of chlorine disinfection
Haloacetic Acids (five) (ug/L)	60	ND	ND - 16	No	Byproducts of chlorine disinfection
Parameter	Secondary MCL	Average Amount	Range of Detection	MCL Violation	Typical Source of Contaminant
Color (color units)	15	ND	0 - 7.5	No	Naturally present in groundwater
Odor (Threshold odor number)	3	1.0	ND - 2	No	Naturally present in groundwater

Lead and Copper Action Level at Residential Taps

Parameter	MCL	AL	90 th Percentile Value	Sites Exceeding MCL, Number of Sites	Number of Schools Requesting Lead Sampling	MCL Violation	Typical Source of Contaminant
Copper (mg/L)	N/A	1.3	0.37	0 / 20	N/A	No	Corrosion of household plumbing
Lead (mg/L)	N/A	.015	ND	0 / 20	0	No	Corrosion of household plumbing

Every three years, 20 residences are tested for lead and copper at-the-tap. The most recent set of samples were collected in 2022. The next collection is scheduled for July 2025. The lead was not detected; copper was detected in twelve samples, none of which exceeded the Regulatory Action Level.

Parameter	MCL	PHG (MCLG)	Average Amount	Range of Detection	MCL Violation	Most Recent Sample Date	Typical Source of Contaminant
Radiological							
Alpha Radiation (pCi/L)	15	(0)	14.5	4.0 - 16.0	No	2022	Erosion of natural deposits
Uranium (pCi/L)	20	(5)	14.5	1.4 - 17.0	No	2022	Erosion of natural deposits
Radium 226 & 228 (pCi/L)	5	0	ND	ND	No	2017	Erosion of natural deposits

What are some contaminants in my source water?

- Microbial contaminants, such as viruses and bacteria, can be naturally occurring or result from urban stormwater runoff, sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.
- Pesticides and herbicides, which 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, which are by-products of industrial processes and petroleum production, can come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

Again, RCLWA has treated our source water and has complied with and met all State and Federal drinking water requirements.

Additional information on drinking water contaminants

Lead – 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. Rubio Canon 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. 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 or at <http://www.epa.gov/lead>.

Radioactive Contaminants – That can be naturally occurring or can be the result of oil and gas production and mining activities. Such contaminants consist of Alpha Radiation, Uranium, and Radium 226 & 228.

1,2,3-TCP - TCP is a manmade chemical, a chlorinated hydrocarbon, found at industrial or hazardous waste sites. It was used as a cleaning and degreasing solvent and is associated with pesticide products, such as soil fumigants. TCP causes cancer in laboratory animals and has been classified by the USEPA as likely to be a human carcinogen.

Nitrate - Found in groundwater through agricultural runoff and a by-product of leaking septic systems. Specifically, a naturally occurring chemical that is left after the breakdown or decomposition of animal or human waste. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age as well as pregnant women, and those with certain specific enzyme deficiencies.

Perchlorate - Occurs both naturally and through manufacturing. A component found in rocket fuel and can be found in airbags, fireworks, and Chilean fertilizers. Metropolitan Water District had no detection of Perchlorate in 2022.

Chloramines - Chlorine has been safely used for more than 100 years for the disinfection of drinking water to protect public health from diseases, which are caused by bacteria, viruses, and other disease-causing organisms. Chloramine, the monochloramine form in particular, also has been used as a disinfectant since the 1930s. Chloramines are produced by combining Chlorine with Ammonia. While toxic at high levels, neither poses any health concerns to humans at the levels used for drinking water disinfection. Chloramines are weaker disinfectants than Chlorine but are more stable, thus extending disinfectant benefits throughout a water utility's distribution system. Chloramines are used for maintaining a disinfectant residual in the distribution system so that disinfected drinking water is kept safe.

Turbidity - Turbidity is a measurement of the cloudiness or haziness of water caused by individual particles (suspended solids) that are generally invisible to the naked eye, thus being much like smoke in the air. Turbidity is generally caused by phytoplankton. Measurement of turbidity is a key test of water quality.

Total Trihalomethanes - Trihalomethanes (THM) are a group of four chemicals that are formed along with other disinfection byproducts when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. The amount of total THM's allowed in drinking water is regulated by the USEPA. THM's are measured at two locations within our system. USEPA has set the total THM Running Annual Average safe limit at 80 ug/L for drinking water.

Haloacetic Acids - Haloacetic acids (HAA5) are a group of five chemicals that are formed along with other disinfection byproducts when chlorine or other disinfectants used to control microbial contaminants in drinking water react with naturally occurring organic and inorganic matter in water. The amount of total HAA5's allowed in drinking water is regulated by the USEPA. HAA5's are measured at two locations within our system. USEPA has set the total HAA5 Running Annual Average safe limit at 60 ug/L for drinking water.

Additional information on drinking water contaminants

Color - When water is not circulated regularly it can pick up color from galvanized or copper pipes causing your water to turn yellow or brown. A rusty water heater can also be a problem. To remove colored water from household pipes, run your faucet for at least five minutes or until the water clears. Catch this water in a pitcher for watering plants or other non-potable purposes. RCLWA has a flushing maintenance program to remove sediment from the distribution system.

Fluoride - Fluoride is a naturally occurring mineral found both in surface water (water from snowmelt, rivers, and streams) as well as groundwater. Fluoride has been added to U.S. drinking water supplies since 1945. While the MCL for Fluoride is set nationally at 4.0 mg/L, the State Water Resources Control Board (SWRCB) has set the California MCL at 2.0mg/L. Compliance is achieved by blending canyon water with pumped groundwater or imported MWD water which, is lower in Fluoride, always reduces the Fluoride concentration below the SWRCB MCL. Tests for Fluoride are conducted every week at a representative location within the distribution system.

Chromium VI – Chromium VI is a heavy metal that occurs throughout the environment and has been known to cause cancer when inhaled and has also been linked to cancer when ingested. Much of the low-level Chromium VI found in drinking water is naturally occurring, reflecting its presence in geological formations throughout the state. However, there are areas of contamination in California from historic industrial use such as the manufacturing of textile dyes, wood preservation, leather tanning, and anti-corrosion coatings.

Abbreviations and definitions

MCL - Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's or MCLG's as is economically and technologically feasible. Secondary MCL's (SMCL) are set to protect the aesthetic qualities (color, taste, and odor) of drinking water. MCL's are set by the State Water Resources Control Board, Division of Drinking Water.

MCLG - Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency (USEPA).

PHG - Public Health Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the U.S. Environmental Protection Agency (USEPA).

MRDL - Maximum Residual Disinfection Level - The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

MRDLG - Maximum Residual Disinfection Level Goal – The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLG's are set by the U.S. Environmental Protection Agency (USEPA).

NL - Notification Level - Non-regulatory, health-based advisory levels established by the State Water Resources Control Board (SWRCB) for contaminants in drinking water for which an MCL has not been established.

N/A - Not applicable

ND - Not detected

PDWS - Primary Drinking Water Standard – MCL's and MRDL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

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

TT - Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.



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