

Roxborough Water and Sanitation District 2020 Annual Water Quality Report for Calendar Year 2019

System Name: Roxborough Water and Sanitation District PWSID CO0118055

Water Quality Data

We routinely monitor for contaminants in your drinking water according to Federal and State laws. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Some of our data, though representative, may be more than one year old.

These tables show the results of our monitoring for the period of January 1 to December 31, 2019 unless otherwise noted.

Microbiological Contaminants

Contaminant	MCL	MCLG	Unit	Result	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Total Coliform Bacteria for Systems that collect <40 samples per month	No more than 1 positive monthly sample	0	Absent or Present	Absent	No	N/A	Naturally present in the environment

Turbidity

	TT Requirement	Level Found	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Turbidity ¹	Maximum 1.000 NTU for any single measurement	Highest single measurement: 0.24	No	Date: 11/04/2019	Soil Runoff
	In any month, at least 95% of samples must be less than 0.3 NTU	Lowest monthly percentage of samples meeting TT standard for our technology: 100%	No	Month: N/A	

Radionuclides

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources
Combined Radium (-226 & -228)	2011	0.2	0.2 - 0.2	1	pCi/L	5	0	No	Erosion of natural deposits.
Gross Alpha, Excl. Radon & U	2011	0.3	0.3 - 0.3	1	pCi/L	15	0	No	Erosion of natural deposits.
Radon	2011	7	7 - 7	1	pCi/L			No	Naturally present in the environment.

Lead and Copper

Contaminant	AL	ALG	Units	90 th Percentile	Number of Sites over AL	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Copper - Rnd 1 & 2	1,300	1,300	ppb	188 / 116	0 / 0	No	5/17/19-9/19/19	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead - Rnd 1 & 2	15	0	ppb	8 / 6	1 / 1	No	5/17/19-9/19/19	Corrosion of household plumbing systems, erosion of natural deposits

Disinfectants

	MRDL	MRDLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date/Year	Source
Chlorine/ Chloramine	4	4	ppm	1.90 0.94 - 2.73	No	*RAA	Water additive used to control microbes

Disinfection Byproducts

Contaminant	MCL	MCLG	Units	Average	Range	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Haloacetic Acids (HAA5)	60	N/A	ppb	8.24	4.3 - 12.6	No	*RAA	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	80	N/A	ppb	15.07	10.9 - 20.9	No	*RAA	By-product of drinking water disinfection

Total Organic Carbon

Contaminant	Compliance Factor (measurements should not be lower than this factor)**	Range of Individual Ratio Samples (Lowest-Highest)	Running Annual Average Range for the Year (compliance factor)	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Total Organic Carbon Ratio (TOC)	1.0	0.89 - 1.47	1.28	No	*RAA	Naturally present in the environment

**If minimum ratio not met and no violation identified then the system achieved compliance using alternative criteria.

Inorganic Contaminants

Contaminant	MCL	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Antimony	6	6	ppb	<1	No	1/17/19	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	10	0	ppb	<1	No	1/17/19	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2000	2000	ppb	41	No	1/17/19	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	4	4	ppb	<1	No	1/17/19	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	5	5	ppb	<1	No	1/17/19	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	100	100	ppb	2	No	1/17/19	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	4,000	4,000	ppb	500	No	1/17/19	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic)	2	2	ppb	<0.1	No	1/17/19	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel	100	100	ppb	1	No	1/17/19	Natural Deposits and Industrial Processes
Nitrate (as Nitrogen)	10,000	10,000	ppb	100	No	1/17/19	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	1,000	1,000	ppb	<4	No	1/13/12	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	ppb	2	No	1/17/19	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	2	0.5	ppb	<1	No	1/17/19	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Secondary Contaminants

Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects or aesthetic effects in drinking water. EPA recommends these standards but does not require water systems to comply.

Contaminant	Secondary Standard	MCLG	Units	Level Detected/Range	Violation (Yes or No)	Sample Date	Likely Source
Sodium	10000	N/A	Mg/L	29.3	N/A	1/17/19	Erosion of Natural Deposits

Footnotes:¹ Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

*RAA- Running Annual Average

Unregulated Contaminants

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Unregulated Contaminant Monitoring Rule (UCMR). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>). Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR sampling and the corresponding analytical results are provided below if any. No contaminants tested for UCMR in 2019 were detected.

Cryptosporidium and Raw Source Water E. coli

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking. Cryptosporidium was detected 0 times and E. coli was detected 2 times in the 2019 source water tests. Roxborough Water & Sanitation District utilizes Ultra Violet light as our primary disinfection method at our new state of the art treatment plant which is proven to be the most effective method for inactivating cryptosporidium.

Roxborough Water and Sanitation District 2020 Annual Water Quality Report for Calendar Year 2019

System Name: Roxborough Water and Sanitation District

PWSID : CO 0118055

Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.

Now that we have solved our long term water needs, supplying a safe and dependable supply of water is our number one goal. That is why we are pleased to present this year's Water Quality Report to assure you that the District's water has always met, and has indeed exceeded the State's water quality standards.

If you have any questions about this report or concerning your water or wastewater services, please call the District office at 303-979-7286. The District's Board of Directors meetings are held on the third Wednesday of every month at 8:00 am in the District Office located in the fire station at 6222 North Roxborough Park Road. Please feel free to attend these meetings.

Our Water Source

The District receives your water from the City of Aurora. The water is diverted from the South Platte River at Strontia Springs Reservoir and then runs through the City of Aurora's tunnel to the Rampart Reservoir and transmission pipelines to the District's water treatment facility. Once it reaches the treatment facility, we utilize a number of treatment processes including coagulation, flocculation, sedimentation, filtration and disinfection.

The sources of drinking water (both tap water and bottled water) include lakes, rivers, 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, which 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, 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 byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive Contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.



The Table of Detected Contaminants

The following definitions will help you understand the terms and abbreviations used in this report:

- **Maximum Contaminant Level (MCL)** – The highest level of a contaminant allowed in drinking water.
- **Treatment Technique (TT)** – A required process intended to reduce the level of a contaminant in drinking water.
- **Action Level (AL)** – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.
- **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 Contaminant Level Goal (MCLG)** – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **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.
- **Violation (No Abbreviation)** – Failure to meet a Colorado Primary Drinking Water Regulation.
- **Formal Enforcement Action (No Abbreviation)** – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.
- **Variance and Exemptions (V/E)** – Department permission not to meet a MCL or treatment technique under certain conditions.
- **Gross Alpha (No Abbreviation)** – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.
- **Picocuries per liter (pCi/L)** – Measure of the radioactivity in water.
- **Nephelometric Turbidity Unit (NTU)** – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
- **Compliance Value (No Abbreviation)** – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).
- **Average (x-bar)** – Typical value.
- **Range (R)** – Lowest value to the highest value.
- **Sample Size (n)** – Number or count of values (i.e. number of water samples collected).
- **Parts per million = Milligrams per liter (ppm = mg/L)** – One part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion = Micrograms per liter (ppb = ug/L)** – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Parts per trillion = Nanograms per liter (ppt = ng/L)** – One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
- **Parts per quadrillion = Picograms per liter (ppq = pg/L)** – One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
- **Not Applicable (N/A)** – Does not apply or not available.

Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit <http://wqcd.compliance.com/ccr>. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select DOUGLAS County and find 118055; ROXBOROUGH PARK WSD or by contacting the District at 303-979-7286. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that could occur. It does not mean that the contamination has or will occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Some people may be more vulnerable to contaminants in drinking water than the public in general. All 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. Immunocompromised 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 of infections. These people should seek advice from their health care providers about drinking water. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

In order to ensure that tap water is safe to drink, Colorado Department of Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The US Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Roxborough Water & Sanitation District Violations For Reporting Year:

- None

Contaminants that were tested for, but not detected, include:

- Fecal coliforms, E.Coli, and all regulated & unregulated volatile & synthetic organic chemicals including pesticides & herbicides.

The state grants waivers for some drinking water contaminants if the contaminants are not found in the public water system's source water. The District has been granted waivers for the following contaminants:

- Dioxin, glyphosate, cyanide, asbestos

Additional Information

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

If arsenic is less than 10 ppb, your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA 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.

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. Roxborough Water and Sanitation District 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 EPA Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Roxborough...A Water Efficient Community

With the natural beauty of the area, we all agree this is a great place to live or work. Indeed the Roxborough area is one of the most majestic communities in Colorado. That is why it is up to all of us who live and work in the community to conserve our limited water resources now and into the years ahead. To do that, we must all take the right steps to discover the beauty of being a water efficient community. Together, "WE" can become one of the Colorado's most Water-Efficient communities!



ROXBOROUGH WATER AND SANITATION DISTRICT

6222 N. Roxborough Park Rd. | Littleton, CO 80125