



**ROXBOROUGH  
WATER AND SANITATION DISTRICT  
2022**

Supplying a safe and dependable water supply is our number one goal. We are pleased to present the 2021 Water Quality Report to assure you the District's water has again met and exceeded the State's water quality standards.

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**Source Water Assessment and  
Protection (SWAP)**

The Colorado Department of Public Health & Environment (CDPHE) has completed a source water assessment of the potential for contaminants reaching any of Aurora Water's terminal supplies, the last stop for the water before it is treated. The potential sources of contamination that may exist are:

- EPA areas of concern
- permitted wastewater discharge sites
- above ground, underground and leaking storage tank sites
- solid waste sites
- existing or abandoned mine sites
- other facilities
- commercial, industrial and transportation activities
- residential, urban recreational grasses
- quarries, strip mines and gravel pits
- agriculture
- forests
- septic systems
- oil and gas wells and roads

For more information on the report, contact the CDPHE by calling 303.692.2000 or visiting [Colorado.gov/cdphe/ccr](https://Colorado.gov/cdphe/ccr). The report is located under "Guidance: Source Water Assessment Reports."

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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. Please feel free to attend these meetings, meeting format is currently hybrid with both in-person and virtual options to attend and participate.

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

# **DRINKING WATER CONSUMER CONFIDENCE REPORT FOR CALENDAR YEAR 2021**

**PWSID: CO 0118070**

**ROXBOROUGH WATER AND SANITATION DISTRICT**  
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[www.roxwater.org](http://www.roxwater.org)



## Our Water Source

The District receives our source water from the City of Aurora. The water is diverted from the South Platte River at Strontia Springs Reservoir and then downstream to Chatfield for treatment by Centennial Water & Sanitation District prior to Roxborough's system. Once it reaches the treatment facility, we utilize several 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.

## Additional Information

Nitrate in drinking water at levels above 10 ppm (10,000 ppb) 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 affects 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 Community

#### 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

## 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.

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 Public 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.



- **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.

# 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, 2021** unless otherwise noted.

## Treatment

### 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 Size	Sample Date/Year	Likely Source of Contamination
Total Organic Carbon Ratio (TOC)	1.0	1.38 – 3.35	2.59	No	24	2021	Naturally present in the environment

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

## Entry Point to Distribution System

### Turbidity \*\*

*Regulated Turbidity	TT Requirement	Level Found	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Turbidity (NTU)	Maximum 1 NTU for any single measurement	Highest single measurement: 0.07 NTU	No	December 2021	Soil Runoff
Turbidity (%)	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	December	Soil Runoff

### Inorganic Contaminants \*\*

Contaminant	MCL	MCLG	Sample Size	Units	Range & Average	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Arsenic	10	0	3	ppb	1 to 3 2.33	No	2021	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2	2	3	ppm	0.06 to 0.08 0.07	No	2021	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	3	ppb	0 to 1 0.67	No	2021	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	4	4	3	ppm	0.81 to 0.93 0.88	No	2021	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	10	10	3	ppm	0.05 to 0.4 0.18	No	2021	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	3	ppb	0 to 5 2.0	No	2021	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

### Radionuclides \*\*

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources
Combined Radium	2020	1.97	0.5 to 3.7	3	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2020	0.67	0 to 1	3	ppb	30	0	No	Erosion of natural deposits
Gross Alpha	2020	1.62	0 to 3.73	3	pCi/L	15	0	No	Erosion of natural deposits
Gross Beta Particle Activity	2020	1.8	0 to 5.4	3	pCi/L*	50	0	No	Decay of natural and man-made deposits

### Secondary Contaminants & Other Monitoring\*\*

Contaminant	MCLG	Units	Range & Average	Sample Size	Sample Year	Likely Source
Sodium (ppm)	NA	ppm	45.7 – 92.5 65.6	3	2021	Naturally present in the environment
Total Dissolved Solids (ppm)	NA	ppm	147 – 867 449	85	2021	Erosion of natural deposits
Nickel (ppb)	NA	ppb	<0.9-2.4 0.8	3	2021	Leaching from metals in water

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.

\*RAA- Running Annual Average

\*\*Information provided from Colorado Department of Public and Environment on behalf of Centennial Water and Sanitation District

# Water Quality Data cont.

## Distribution System



### Microbiological Contaminants

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

### Disinfectant Residuals

Disinfectant Name	MRDL	MRDLG	Units	Range & Average	Violation (Yes or No)	Sample Size	Sample Date	Source
Chlorine/ Chloramine	4	4	ppm	0.90 – 2.06 1.68	No	1	01/12/2021	Water additive used to control microbes

### Disinfection Byproducts

Contaminant	MRDL	MCLG	Units	Average	Range	Violation (Yes or No)	Sample Size	Sample Date	Source
Haloacetic Acids (HAA5)	60	N/A	ppb	10.9	8.2 – 15.7	No	4	*RAA	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	80	N/A	ppb	44.55	30.7 – 70.2	No	4	*RAA	Byproduct of drinking water disinfection

### Lead and Copper

Contaminant	AL	ALG	Units	90 <sup>th</sup> Percentile	Number of Sites over AL	Violation (Yes or No)	Sample Size	Sample Date	Likely Source of Contamination
Copper	1.3	1.3	ppm	0.44	0	No	10	06/15/2021-06/28/2021	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	15	0	ppb	11	1	No	10	06/15/2021-06/28/2021	Corrosion of household plumbing systems, erosion of natural deposits

\*RAA- Running Annual Average

\*\*Information provided from Colorado Department of Public and Environment on behalf of Centennial Water and Sanitation District

### Violations, Significant Deficiencies, and Formal Enforcement

No Violations or Formal Enforcement Actions