

**2020 Drinking Water Quality Report  
Covering Data for Calendar Year 2019  
Public Water System ID: CO0118040**



Photo: Newlin Gulch flowing into Rueter-Hess Reservoir

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

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact James Roche at 303-841-4627 with any questions or for public participation opportunities that may affect water quality. **Please see the water quality data from our system included in this report for additional information about your drinking water.**

**GENERAL INFORMATION**

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting [epa.gov/ground-water-and-drinking-water](https://www.epa.gov/ground-water-and-drinking-water).

Some people may be more vulnerable to contaminants in drinking water than the general population. 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 about drinking water from their health care providers. 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 microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

### General Information continued...

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:** viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants:** salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides:** may come from a variety of sources, such as agriculture, urban storm water runoff, and residential uses.
- **Radioactive contaminants:** can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants:** including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

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

### Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. 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. Additional 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 [epa.gov/safewater/lead](http://epa.gov/safewater/lead).

### Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment may have 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://www.pwsd.org/DocumentCenter/View/690>. 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. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Quality Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

## Our Water Sources

<u>Sources (Water Type - Source Type)</u>	<u>Potential Source(s) of Contamination</u>
<p>                     RUETER-HESS RESERVOIR (Surface Water-Intake)                      PARKER RIDGE ARAPAHOE (Groundwater-Well)                      PARKER RIDGE DAWSON (Groundwater-Well)                      RUETER HESS DENVER (Groundwater-Well)                      RUETER HESS DAWSON (Groundwater-Well)                      CC 15 ALLUVIAL (Groundwater-Well)                      CC 17 ALLUVIAL (Groundwater-Well)                      HESS I (Groundwater-Well)                      HESS II (Groundwater-Well)                      PURCHASED FROM WISE CO0103843 (Surface Water-Consecutive Connection)                      NEU TOWNE ARAPAHOE (Groundwater-Well)                      REATA NORTH ARAPAHOE (Groundwater-Well)                      NEU TOWNE DAWSON (Groundwater-Well)                      REGENCY ARAPAHOE (Groundwater-Well)                      REGIONAL ARAPAHOE (Groundwater-Well)                      REGIONAL DENVER (Groundwater-Well)                      REGIONAL DAWSON (Groundwater-Well)                      REGIONAL LARAMIE FOX HILLS (Groundwater-Well)                      SALISBURY ARAPAHOE (Groundwater-Well)                      SALISBURY DAWSON (Groundwater-Well)                      CC7 (Groundwater-Well)                      CC9 (Groundwater-Well)                      CC13 (Groundwater-Well)                      REUTER HESS ARAPAHOE (Groundwater-Well)                      NEWLIN GULCH ARAPAHOE (Groundwater-Well)                      CLARKE FARMS ARAPAHOE (Groundwater-Well)                      HIDDEN RIVER ARAPAHOE (Groundwater-Well)                      CLARK FARMS A2 (Groundwater-Well)                      KOA2 CC (Groundwater-Well)                      BRADBURY ARAPAHOE (Groundwater-Well)                      BRADBURY DAWSON (Groundwater-Well)                      BRADBURY LFH (Groundwater-Well)                      BRADBURY DENVER (Groundwater-Well)                      PARKER NORTH DAWSON (Groundwater-Well)                      PARKER NORTH DENVER (Groundwater-Well)                      PARKER NORTH ARAPAHOE (Groundwater-Well)                      PARKER NORTH LFH (Groundwater-Well)                      KOA 1 CC (Groundwater-Well)                      STROH RANCH ALLUVIAL (Groundwater-Well)                      STROH RANCH DAWSON (Groundwater-Well)                      STROH RANCH DENVER (Groundwater-Well)                      ROBINSON RANCH ARAPAHOE (Groundwater-Well)                      STROH RANCH ARAPAHOE (Groundwater-Well)                      ROWLEY DOWNS ARAPAHOE (Groundwater-Well)                      RUSTIC DAWSON (Groundwater-Well)                 </p>	<p style="text-align: center;">                     Aboveground, Underground and Leaking Storage Tank Sites, Other Facilities, Commercial/Industrial/Transportation, High Intensity Residential, Low Intensity Residential, Urban Recreational Grasses, Row Crops, Fallow, Small Grains, Pasture / Hay, Evergreen Forest, Septic Systems, Road Miles                 </p>



Photo: Rueter-Hess Reservoir



## An Explanation of the Water Quality Data Table

The table shows the results of water quality analysis from the latest routine samplings. Every **regulated** contaminant **detected**, even in minute traces, is listed. The table contains the name of each substance; the highest level allowed by the Safe Drinking Water Act, the ideal goals for public health, the amount detected, the usual source of such contamination, footnotes explaining the findings, and a key to units of measurement. **Contaminants that are not detected are not listed.** If you are interested in the full list of analytes tested, please contact the Parker Water and Sanitation District's Laboratory.

### Important Terms and Abbreviations

- **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.
- **Health-Based** – A violation of either a MCL or TT.
- **Non-Health-Based** – A violation that is not a MCL or TT.
- **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 90<sup>th</sup> 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.
- **Not Applicable (N/A)** – Does not apply or not available.
- **Level 1 Assessment** – 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 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.
- **Gross Alpha, Including RA, Excluding RN & U:** This is the gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222 and uranium.

## Detected Contaminants

PARKER WSD routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2019 unless otherwise noted. 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. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

**Note:** Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

### Disinfectants Sampled in the Distribution System

TT Requirement: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm OR  
If sample size is less than 40 no more than 1 sample is below 0.2 ppm  
Typical Sources: Water additive used to control microbes

Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chloramine	December, 2019	<u>Lowest period</u> percentage of samples meeting TT requirement: 100%	0	60	No	4.0 ppm

### Lead and Copper Sampled in the Distribution System

Contaminant Name	Time Period	90 <sup>th</sup> Percentile	Sample Size	Unit of Measure	90 <sup>th</sup> Percentile AL	Sample Sites Above AL	90 <sup>th</sup> Percentile AL Exceedance	Typical Sources
Copper	09/12/2019 to 09/26/2019	0.24	76	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	09/12/2019 to 09/26/2019	2.4	76	ppb	15	2	No	
Copper	01/12/2019 to 01/24/2019	0.25	82	ppm	1.3	0	No	
Lead	01/12/2019 to 01/24/2019	3.2	82	ppb	15	1	No	

### Disinfection Byproducts Sampled in the Distribution System

Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2019	2.73	0 to 17.4	32	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2019	10.96	0 to 25	32	ppb	80	N/A	No	
Chlorite	2019	0.11	0 to 0.34	36	ppb	1.0	.8	No	

### Summary of Turbidity Sampled at the Entry Point to the Distribution System

Contaminant Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources
Turbidity	Date/Month: Sep	<u>Highest single</u> measurement: 0.087 NTU	Maximum 0.5 NTU for any single measurement	No	Soil Runoff
Turbidity	Month: Dec	<u>Lowest monthly</u> percentage of samples meeting TT requirement for our technology: 100 %	In any month, at least 95% of samples must be less than 0.1 NTU	No	

### Radionuclides Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCL G	MCL Violation	Typical Sources
Gross Alpha	2019	1.3	1.3 to 1.3	1	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2019	2.93	2.93 to 2.93	1	pCi/L	5	0	No	
Gross Beta Particle Activity	2019	2.2	2.2 to 2.2	1	pCi/L*	50	0	No	Decay of natural and man-made deposits

\*The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern for Gross Beta Particle Activity.

## Detected Contaminants continued...

### Inorganic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Arsenic	2019	1	0 to 2	2	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2019	0.12	0.09 to 0.14	2	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2019	1.08	0.35 to 1.76	8	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2019	0.03	0 to 0.24	8	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2019	0.5	0 to 1	2	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

### Synthetic Organic Contaminants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Di(2-ethylhexyl) adipate	2019	0.72	0 to 11	21	ppb	400	400	No	Discharge from chemical factories

### Secondary Contaminants\*\*

\*\*Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	Secondary Standard
Sodium	2019	45.65	25.7 to 65.6	2	ppm	N/A
Total Dissolved Solids	2019	254.65	138.1 to 370.2	98	mg/L	500 mg/L
Sulfate	2019	43.25	<3.92 to 105.51	408	mg/L	250 mg/L
Alkalinity	2019	112.45	77 to 189.9	817	mg/L as CaCO <sub>3</sub>	N/A
Hardness	2019	105.5	28.4 to 215.2	379	mg/L as CaCO <sub>3</sub>	N/A
pH	2019	8.23	7.2 to 9.94	832	SU	6.5 to 8.5
Chloride	2019	45.12	4.02 to 160.19	407	mg/L	250 mg/L

### Unregulated Contaminant Monitoring Rule 4 (UCMR4)

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.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	Sample Location
Total Organic Carbon	2018	6723	5880 to 7160	4	ppb	Raw Water Site
Bromide	2018	194	191 to 198	4	ppb	Raw Water Site
HAA5	2018	4.05	0 to 8.94	32	ppb	Distribution System
HAA6Br	2018	6.84	0 to 16.89	32	ppb	Distribution System
HAA9	2018	8.78	0 to 19.714	32	ppb	Distribution System
Cyanotoxins	2018	Not Detected	Not Detected	8	ppb	Surface Water Entry Point
Manganese	2019	21.68	0.66 to 76.30	18	ppb	All Entry Points
1-Butanol	2019	0.16	0 to 2.89	18	ppb	All Entry Points

More information about the contaminants that were included in UCMR monitoring can be found at: <https://drinktapp.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR>. Learn more about the EPA UCMR at: <http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule> or contact the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/contact.cfm>.