



## Drinking Water Quality Report for Calendar Year 2018

Public Water System ID:  
CO0118040



*Sustaining Life For Our Community*

## 2019 Consumer Confidence Report For Calendar Year 2018 Drinking Water Quality

*This information applies only to water provided by Parker Water & Sanitation District PWSID# CO0118040.  
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. Parker Water & Sanitation District is committed to providing residents with a safe and reliable supply of high-quality drinking water. Testing is done using sophisticated equipment and advanced procedures to detect possible drinking water contaminants. 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 <http://water.epa.gov/drink/contaminants>.

The District's water meets, or exceeds, state and federal standards for both appearance and safety. This annual "Consumer Confidence Report," required by the Safe Drinking Water Act (SDWA) & Public Notification Rule, explains the water source, test results, and other important information about your drinking water.

### Contacts and Public Comment Information

Contact the Director of Operations, James Roche, at 303-841-4627 with questions or comments about this Consumer Confidence Report. District board meetings are open to the public and are held the second and fourth Thursday of every month at 6:00pm. The meetings are held at the North Wastewater Reclamation Facility located at 18100 E. Woodman Drive in Parker. Contact Ron Redd, District Manager, at 303-841-4627 for information on other opportunities for public participation in decisions about drinking water.



### Special Populations

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).

### Parker Water and Sanitation District

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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 byproducts 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.

## Water Quality Data Table

Parker Water and Sanitation District 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, 2018 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	Number of Samples Below Level Number of Samples Below Level Sample Size	Sample Size	TT Violation	MRDL
Chloramine	December, 2018	Lowest period percentage of samples meeting TT requirement: 100%	0	68	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	Typical Sources
Copper	04/29/2018 to 05/3/2018	0.75	78	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	04/29/2018 to 05/3/2018	2.2	78	ppb	15	0	No	
Copper	9/14/2018 to 10/1/2018	0.3	80	ppm	1.3	0	No	
Lead	9/14/2018 to 10/1/2018	2	80	ppb	15	1	No	

### Disinfection Byproducts Sampled in the Distribution System

Name	Year	Average	Range	Sample Size	Unit of Measure	MCL	MCLG	Highest Compliance Value	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2018	3.93	0 to 7.3	32	ppb	60	N/A		No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2018	13.25	0 to 25.5	32	ppb	80	N/A		No	
Chlorite	2018	0.09	0 to 0.3	36	ppb	1.0	.8	N/A	No	

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

Contaminant Name	Year	Number of Samples Above or Below Level	Sample Size	TT/MRDL Requirement	TT/MRDL Violation	Typical Sources
Chlorine/Chloramine	2018	0	2445	TT = No more than 4 hours with a sample below 0.55 MG/L	No	Water additive used to control microbes
Chlorine Dioxide	2018	0	318	MRDL = 800 ppb	No	

## Water Quality Data Table (continued)

### 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: Dec	Highest single measurement: 0.408 NTU	Maximum 0.5 NTU for any single measurement	No	Soil Runoff Soil Runoff
Turbidity	Month: Dec	Lowest monthly percentage of samples meeting TT requirement for our technology: 98 %	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	MCLG	MCL Violation	Typical Sources
Gross Alpha	2017	5.29	2.7 to 8.9	3	pCi/L	15	0	No	Erosion of natural deposits Erosion of natural deposits Erosion of natural deposits
Combined Radium	2017	3.49	2.57 to 4.5	4	pCi/L	5	0	No	
Combined Uranium	2017	4.63	0 to 13.9	3	ppb	30	0	No	
Gross Beta Particle Activity	2017	8.87	5.6 to 13.1	3	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.

### 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	2017	0.13	0 to 2	16	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2018	0.06	0.06 to 0.06	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2018	0.98	0.58 to 1.23	3	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2018	0.08	0 to 0.28	9	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2017	0.25	0 to 3	16	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

### 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	2018	75	75 to 75	1	ppm	N/A

### 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

More information about the contaminants that were included in UCMR monitoring can be found at: <https://drinktap.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>.



## 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.

## Water Source

The District is currently reliant upon surface water stored in Rueter-Hess Reservoir and many groundwater wells located throughout the Town of Parker area. Rueter-Hess Reservoir is an off-stream reservoir, which stores renewable water from the following sources: nearby Cherry Creek (surface water & alluvial well water), Newlin Gulch and reclaimed water from PWSA. This water is treated utilizing North America's first Ceramic Membrane Filtration Plant. The groundwater wells penetrate the Cherry Creek Alluvium as well as the Denver, Dawson, Arapahoe, and Laramie Fox Hill aquifers with depths ranging from 52 feet to 2,674 feet. In addition to these water sources, the District also purchases water through the South Metro Water Supply Authority.

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply, you may obtain a copy of the report online at <http://www.pwsd.org/DocumentCenter/View/690> or by contacting James Roche at 303-841-4627. 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.

The potential sources of discrete contamination to the

water system, as stated in the revised Source Water Assessment Report, include above ground, underground and leaking storage tank sites and other facilities. Potential sources of contamination in our area also include possible accidental hazardous materials releases.

The potential contamination from dispersed contaminant sources includes the following: Commercial, industrial/transportation, High intensity residential, Low intensity residential, Urban Recreational grasses, Row crops, Fallow, Small grains, Pasture/Hay, Evergreen forest, Septic Systems, and Road miles.

Please contact Parker Water and Sanitation District if you have questions or concerns regarding this information.

## Lead in Drinking Water

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. Parker 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 Safe Drinking Water Hotline or at <http://water.epa.gov/drink/info/lead>.