Arapahoe County Water and Wastewater Authority

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Arapahoe County Water and Wastewater Authority 2021 Drinking Water Quality Report for Calendar Year 2020

Public Water System ID: CO0203002

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 STEVE WITTER at 303-790-4830 with any questions about the drinking Consumer Confidence Report (CCR) or for public participation opportunities that may affect the water quality.

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 http://water.epa.gov/drink/contaminants.

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).

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 stormwater 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 stormwater runoff, and residential uses;
- **Radioactive contaminants:** can be naturally occurring or be the result of oil and gas production and mining activities; and
- **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.

ACWWA's Drinking Water Sources

Arapahoe County Water and Wastewater Authority (ACWWA) customers receive water from a combination of sources. These sources include:

- Groundwater from shallow aquifers – renewable water source from the Cherry Creek Alluvial Aquifer;
- Groundwater from Deep aquifers – non-renewable water source mostly from the Denver and Arapahoe Formations of the Denver Basin;
- Joint Water Purification Plant (JWPP) – collaboration effort with Cottonwood Water and Sanitation District that treats groundwater from shallow (alluvial) aquifers. The plant anticipates the need for an additional level of treatment that will be required with continued use of water from the Cherry Creek Alluvial Aquifer.
- ACWWA Flow Project – collaboration effort with East Cherry Creek Valley Water and Sanitation District (ECCV) and United Water and Sanitation District. The Project is currently in its first phase which water from ECCV's deep water well field is brought into the ACWWA service area. ACWWA's rights to the surface water referenced in the table are exchanged for use of this water so no surface water is used in the ACWWA distribution system at this time.

The table on the right, "ACWWA's Water Sources," details which water sources were used in 2016.

ACWWA's Water Sources

System ID	Source	Description	Potential Source(s) of Contamination
ECCV	PURCHASED WATER FROM CO0103035	Delivered from the ACWWA Flow project in collaboration with ECCV	CDPHE has provided ECCV with a Source Water Assessment Report for the District's water supply. You may obtain a copy of the report by visiting www.cdphe.state.co.us/wq/sw/swapom.html or by contacting ECCV at 303-693-3800 ext 228.
ACWWA	BRAUN	Shallow (Alluvial) Groundwater Well	EPA Hazardous Waste Generators, 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, Deciduous Forest, Evergreen Forest, Septic Systems, Road Miles
	SMITH 2	Shallow (Alluvial) Groundwater Well	
	CA2	Deep Groundwater Well	
	CD2R	Deep Groundwater Well	
	LOYD	Shallow (Alluvial) Groundwater Well	
	DENMARK ARAPAHOE	Deep Groundwater Well	
	AIRPORT 3	Deep Groundwater Well	
	A2	Deep Groundwater Well	
	A1	Deep Groundwater Well	
JWPP	PURCHASED FROM JWPP CO0103418	Water from the JWPP Collaboration with CWSD	

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 wqcdcompliance.com/ccr. The report is located under "Guidance: Source Water Assessment Reports". Search the table using 203002, ARAPAHOE CNTY WWWA, or by contacting MATT LANGRIDGE at 303-790-4830. 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.

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 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.
- **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.

Detected Contaminants in the ACWWA System

ACWWA, ECCV, and the JWPP routinely monitor 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, 2020 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

System ID	Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
ACWWA	Chlorine	December, 2020	Lowest period percentage of samples meeting TT requirement: 100%	0	30	No	4.0 ppm
ECCV	Chlorine	December, 2020	Lowest period percentage of samples meeting TT requirement: 100%	0	66	No	4.0 ppm

Microbiological Contaminants in the Distribution System

System ID	Contaminant Name	Highest % of Positive Samples	MCL	MCLG	Violation	Typical Sources
ACWWA	Coliform (TCR)	0%	Less than 5% positive each	0	No	Naturally present in the environment

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 http://www.epa.gov/safewater/lead.

Lead and Copper Sampled in the Distribution System									
System ID	Contaminant Name	Time Period	90th Percentile	Sample Size	Unit of Measure	90th Percentile AL	Sample Sites Above AL	90th Percentile AL Exceedance	Typical Sources
ACWWA	Lead	Jan-Apr '20	3.1	60	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
	Copper	Jan-Apr '20	0.16	60	ppm	1.3	0	No	
	Lead	July-Aug '20	3.1	60	ppb	15	0	No	
	Copper	July-Aug '20	0.14	60	Ppm	1.3	0	No	
ECCV	Lead	Jan-Apr '20	2	64	ppb	15	0	No	
	Copper	Jan-Apr '20	0.13	64	ppm	1.3	0	No	
	Lead	July-Sept '20	2	62	ppb	15	0	No	
	Copper	July-Sept '20	0.1	62	ppm	1.3	0	No	

Disinfection Byproducts Sampled in the Distribution System									
System ID	Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCL Violation	Typical Sources
ACWWA	Total Haloacetic Acids (HAA5)	2020	12.55	11 to 14.1	2	ppb	60	No	Byproduct of drinking water disinfection
ECCV	Total Haloacetic Acids (HAA5)	2020	8.93	0 to 18.7	32	ppb	60	No	
ACWWA	Total Trihalomethanes (TTHM)	2020	34.8	31.1 to 35.5	2	ppb	80	No	
ECCV	Total Trihalomethanes (TTHM)	2020	28.71	0 to 67.5	32	ppb	80	No	

Radionuclides Sampled at the Entry Point to the Distribution System										
System ID	Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
ACWWA	Gross Alpha	2020	13.95	13.95 to 13.95	1	pCi/L	15	0	No	Erosion of natural deposits
ECCV	Gross Alpha	2019	1.19	1.19 to 1.19	2	pCi/L	15	0	No	
JWPP	Gross Alpha	2020	10.96	10.96 to 10.96	1	pCi/L	15	0	No	
ACWWA	Combined Radium	2020	3.95	2.5 to 5.4	2	pCi/L	5	0	No	
ECCV	Combined Radium	2020	1.9	1.9 to 1.9	1	pCi/L	5	0	No	
JWPP	Combined Radium	2020	1.7	1.7 to 1.7	1	pCi/L	5	0	No	
ACWWA	Combined Uranium	2020	15	15 to 15	1	ppb	30	0	No	
ECCV	Combined Uranium	2019	4.2	4.2 to 4.2	1	ppb	30	0	No	
JWPP	Combined Uranium	2020	12	12 to 12	1	ppb	30	0	No	

Volatile Organic Contaminants Sampled at the Entry Point to the Distribution System										
System ID	Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
ACWWA	Toluene	2020	0	0 to 0	5	Ppm	1	1	No	Discharge from petroleum factories

Inorganic Contaminants Sampled at the Entry Point to the Distribution System										
System ID	Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
ACWWA	Antimony	2020	0.08	0.08 to 0.08	1	ppb	6	6	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
ACWWA	Arsenic	2020	4.5	4.5 to 4.5	1	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
ECCV	Arsenic	2020	1.23	0 to 3	13	ppb	10	0	No	
JWPP	Arsenic	2020	2	2 to 2	1	ppb	10	0	No	
ACWWA	Barium	2020	0.29	0.29 to 0.29	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
ECCV	Barium	2020	0.08	0.01 to 0.16	13	ppm	2	2	No	
JWPP	Barium	2020	0.14	0.14 to 0.14	1	ppm	2	2	No	
ACWWA	Fluoride	2020	0.72	0.44 to 1	2	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
ECCV	Fluoride	2020	1.03	0.43 to 1.36	13	ppm	4	4	No	
JWPP	Fluoride	2020	0.2	0.2 to 0.2	1	ppm	4	4	No	
ACWWA	Nitrate	2020	0.19	0 to 1.3	7	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
ECCV	Nitrate	2020	0.19	0 to 1	13	ppm	10	10	No	
JWPP	Nitrate	2020	0.6	0.6 to 0.6	1	ppm	10	10	No	
ACWWA	Selenium	2020	1.5	1.5 to 1.5	1	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
ECCV	Selenium	2020	0.54	0 to 3	13	ppb	50	50	No	
JWPP	Selenium	2020	4	4 to 4	1	ppb	50	50	No	
ECCV	Chromium	2020	0.92	0 to 3	13	ppb	100	100	No	Discharge from steel and pulp mills; erosion of natural deposits
JWPP	Chromium	2020	2	2 to 2	1	ppb	100	100	No	

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.							
System ID	Contaminant Name	Year	Average	Range Low-High	Sample Size	Unit of Measure	Secondary Standard
ACWWA	Total Dissolved Solids	2019	414.8	142 to 814	5	ppm	500
JWPP	Total Dissolved Solids	2018	818	778 to 840	4	ppm	500
ACWWA	Sodium	2020	85.1	85.1 to 85.1	1	ppm	N/A
ECCV	Sodium	2020	50.12	30.9 to 72	13	ppm	N/A
JWPP	Sodium	2020	36.5	36.5 to 36.5	1	ppm	N/A

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 and submitted results, the results are made available in the EPA's National Containment Occurrence Database (NCOD) (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.

System ID	Contaminant Name	Year	Average	Range Low-High	Sample Size	Unit of Measure
ACWWA	Manganese	2019	170.39	1.2 to 764	9	ug/L
ACWWA	Germanium	2019	0.256	0 to 1.98	9	ug/L
ACWWA	Bromide	2019	137.82	21 to 389	9	ug/L
ACWWA	Bromochloroacetric Acid	2019	2.8	2.26 to 3.68	4	ug/L
ACWWA	Bromodichloroacetric Acid	2019	5.93	5.3 to 6.28	4	ug/L
ACWWA	Chlorodibromoacetic Acid	2019	2.8	2.35 to 3.25	4	ug/L
ACWWA	Dibromoacetic Acid	2019	4.05	3.64 to 4.84	4	ug/L
ACWWA	Dichloroacetic Acid	2019	5.22	4.51 to 6.33	4	ug/L
ACWWA	Monobromoacetic Acid	2019	0.657	0.574 to 0.781	4	ug/L
ACWWA	Tribromoacetic Acid	2019	3.5	3.21 to 3.9	4	ug/L
ACWWA	Trichloroacetic Acid	2019	1.98	1.76 to 2.24	4	ug/L
ACWWA	Total HAA5	2019	11.9	10.48 to 14.19	4	ug/L
ACWWA	Total Organic Carbon (TOC)	2019	0.45	0 to 1.44	9	mg/L

***More information about the contaminants that were included in UCMR monitoring can be found at: drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR. Learn more about the EPA UCMR at: epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule or contact the Safe Drinking Water Hotline at (800) 426-4791 or epa.gov/ground-water-and-drinking-water.

Violations, Significant Deficiencies, and Formal Enforcement Actions

No Violations or Formal Enforcement Actions