

Water Quality Report

East Cherry Creek Valley Water & Sanitation District

6201 S. Gun Club Road • Aurora, CO 80016

Drinking Water Quality Report/
Consumer Confidence Report (CCR)
PWSID #103035, Calendar Year 2016

Esta es información importante. Si no pueden leer esta información en inglés, le sugerimos que alguien se la traduzca.



January 1 - December 31, 2016



At East Cherry Creek Valley Water and Sanitation District (ECCV), our mission is sustaining our community by providing safe, reliable water. The quality of the water in your home is of the utmost importance to us.



This report is intended to give you valuable information about your water. It will help you to understand where the water you use comes from, and how water contributes to your family's health. ECCV wants its customers to be informed about the services we provide, and the quality of the water we deliver to you every day. If you have any questions about this report or concerns about water quality, please contact **Serenity Valdez, Water Quality Analyst at 303-693-3800 ext 191** or visit our website: www.eccv.org.

Where Does My Water Come From?

In 2016, ECCV received its water supply from three distinct sources:

- 1) Groundwater from deep aquifers in the Denver Basin (non-renewable water).
- 2) Groundwater from the Beebe Draw aquifer (renewable water).
- 3) Surface water from Denver Water, which is a leased supply of renewable water.

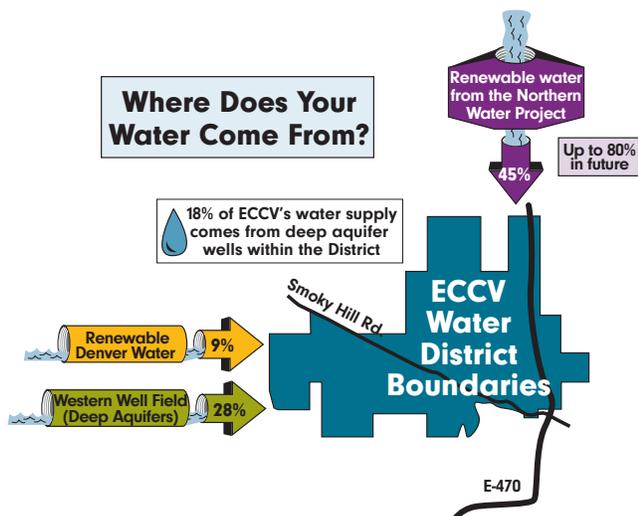
Deep Aquifers: ECCV uses approximately 86 wells within the District and in its Western Well Field. In-District wells produce roughly 18 percent and the Western Well Field produces about 28 percent of the District's overall water supply. Deep aquifers are the source of approximately 46 percent of ECCV's water. Aquifers are open spaces, typically filled with gravel and sand, in underground bedrock layers that contain water. Groundwater from aquifers typically needs little treatment to meet drinking water standards because it is not exposed to environmental

pollutants. Deep aquifers are considered a "non-renewable" source because they cannot be replenished with rainfall or snow melt as quickly as the water is withdrawn.

ECCV Northern Project: This project delivers renewable water near the South Platte River and comprises 45 percent of ECCV's annual water supply. ECCV stores this water in the Beebe Draw aquifer near Brighton. When needed, ECCV's Northern Water Treatment Plant uses twelve wells to extract the water. ECCV then treats the water with reverse osmosis and disinfection. Once treated, the water is transported through a 31-mile pipeline to our distribution system.

Denver Water: ECCV currently receives approximately 9 percent of its water supply from Denver Water through two separate connections to the Denver system; one near Denver International Airport, and another in Highlands Ranch. This resource is surface water that has been treated at one of Denver's state-of-the-art water treatment facilities. Information on this water source is included in the table in this report titled "Denver Water Quality".

Blended Supplies: ECCV blends its water supplies before distributing it to our customers. All of the water sources are tested regularly and meet all State and Federal drinking water regulations.



Unique Characteristics Of ECCV's Water

The mineral content of ECCV's water varies from the three sources—enough to cause taste and odor differences in the water as wells are rotated and supplies blended. ECCV's treatment plant provides more consistency to the water supply and less variation in the taste and odor of the water.



More Information About Your Water

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**, such as viruses and bacteria: These may come from wastewater treatment facilities, septic systems, agricultural and/or livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals: These 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**, which may originate from a variety of sources, such as: agriculture, urban storm-water runoff and residential uses.
- **Organic chemical contaminants** (including synthetic and volatile organic chemicals): These are byproducts of industrial processes and petroleum production. They may also come from gas stations, urban storm-water runoff, and septic systems.
- **Radioactive contaminants**: These can be naturally occurring or the result of oil and gas production and mining activities.

ECCV ensures that your tap water is safe to drink by adhering to EPA regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulates limits for contaminants in bottled water that must provide the same protection for public health.

Does ECCV Have Hard Water?

ECCV's annual average of water hardness is approximately 100 parts per million (ppm). "Hardness" in drinking water is caused by two minerals: calcium and magnesium, both of which dissolve naturally. Hard water is safe to drink, but it can have undesired effects on cleaning and bathing. Soaps and detergents lather less in hard water. In addition, hard water can form a residue when combined with detergents, which can stay behind on dishes and laundry. Hard water can also form "scale" on fixtures and appliances, resulting in energy inefficiencies. In the United States, water hardness may range from 0 to 500 parts per million (ppm), depending on the source of the water and level of treatment. A level of 500 ppm is considered extremely hard water.

Guarding Against Lead in Your Home's 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. ECCV 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 (1-800-426-4791) or at <http://water.epa.gov/drink/info/lead>.



Drinking Water and Your Health

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants.

The presence of these contaminants does not necessarily mean that the water poses a health risk.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons; such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice concerning 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.

Source Water Protection

The Colorado Department of Public Health & Environment (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: <https://www.colorado.gov/cdphe/swap-assessment-phase> or by contacting ECCV at: 303-693-3800 ext 191.

Potential sources of contamination in our source water area come from commercial and industrial activities such as leaking underground storage tanks. The Source Water Assessment Report

provides a screening-level evaluation of potential contamination that could occur. It does not mean that the contamination has occurred or will occur. ECCV can use this information to evaluate our current water treatment capabilities and prepare for future contamination threats. This can help ECCV ensure quality water is delivered to your home. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Testing for Your Safety

ECCV routinely monitors for contaminants in its drinking water supply, according to Federal and State laws. The table below shows all of the applicable drinking water contaminants detected from January 1 to December 31, 2016, unless otherwise noted. Constituents not detected are not listed. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk.



ECCV – Water Quality Table

La información que sigue es importante acerca de la calidad de su agua. Si no la pueda leer, le sugerimos que alguien se la traduzca.

Microbiological	Violation	Highest % of Positive Samples		MCL	MCLG	Typical Source	
Coliform, Total	No	0% January 2016		Less than 5% positive each month	0	Human and animal fecal waste	

Organics and Inorganics	Violation	Collection Year	Average	Range	MCL	MCLG	CCR Unit	Typical Source
Arsenic	No	2014	1	br - 2	10	0	ppb	Erosion of natural deposits; Runoff from orchards; runoff from glass and electronics production wastes
Barium	No	2015	0.004	0.004 - 0.004	2	2	ppm	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	No	2016	0.43	0.43 - 0.43	4.0	4.0	ppm	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (As N)	No	2016	0.28	br - 1.2	10	10	ppm	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium	No	2014	1	br - 1	50	50	ppb	Erosion of natural deposits

Radionuclides	Violation	Collection Year	Average	Range	MCL	MCLG	CCR Unit	Typical Source
Gross Alpha	No	2014	3.2	3.2 - 3.2	15	0	pCi/L	Erosion of natural deposits
Combined Radium	No	2012	0.71	0 - 2.5	5	0	pCi/L	
Uranium	No	2014	2.2	2.2 - 2.2	30	0	ppb	

Disinfection By-Products	Violation	Collection Year	Highest Annual Average	Range of All Samples	MCL	CCR Unit	Typical source
“Total Haloacetic Acids (HAA5)”	No	2016	12.09	br-12.10	60	ppb	By-product of drinking water disinfection
“Total Trihalomethanes (TTHM)”	No	2016	39.5	br-37.5	80	ppb	

Lead and Copper	Exceed-ance	Collection Period	90th Percentile	Number of Sites Exceeding Action Level	Action Level	CCR Unit	Typical Source
Lead	No	Aug-Sep '14	1	1	15	ppb	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	No	Aug-Sep '14	0.09	0	1.3	ppm	

Secondary Contaminants / Other Monitoring	Collection Year	Average	Range	Secondary MCL	CCR Unit	Typical Source
Iron	2016	0.05	br-0.49	300	ppb	Erosion of natural deposits
Manganese	2016	0.03	br-0.77	50	ppb	
Nickel	2014	0.001	0.001 - 0.001	n/a	ppm	
Sodium	2015	48.9	48.9-48.9	n/a	ppm	
Total Dissolved Solids	2016	267.1	130-409	500	ppm	

Terms and Definitions:

br means below the reportable level for an analysis; the reportable level is the lowest reliable level that can be measured.

Trigger levels are limits that when reached warrant further investigation and/or action as per a specific regulation.

MRDLG is the Maximum Residual Disinfectant Level Goal

Contaminant: A potentially harmful physical, biological, chemical substance

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

µg/L is micrograms per Liter equals ppb (parts per billion). One ppb is comparable to one drop of water in 55,000 gallons. **mg/L** is milligrams per Liter and equals ppm (parts per million). One ppm is comparable to one drop of water in 55 gallons.

pCi/L is picoCuries per Liter is a radiological unit measuring radioactivity per unit volume

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 or other requirements which a water system must follow

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 Residual Disinfectant Level Goal (MRDLG): the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contamination.

Denver Water – Water Quality Table

Microbiological	Violation	Highest % of Positive Samples			MCL	MCLG	Typical Source
Organics and Inorganics	Violation	Collection Year	Average	Range	MCL	MCLG	Typical Source
Coliform, Total	No		0.24% in June 2016		No more than 5% positive each month	0	Naturally present in the environment.
Antimony	No	2016	0.05	br-.08	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	No	2016	0.5	br-.50	10	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics; solder
Barium	No	2016	0.03	.02-.04	2	2	Erosion of natural deposits; water treatment chemicals.
Chromium	No	2016	0.60	br - 1	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	No	2016	0.70	0.2-11	4.0 ¹	4.0	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate (As N)	No	2016	0.10	br-.2	10	10	Erosion of natural deposits
Selenium	No	2016	0.50	br-.6	50	50	
Turbidity ²	No	2016		Highest turbidity level: 0.18 % of Samples <0.3: 100% ³	TT<0.3NTU	NTU	Soil runoff
Total Organic Carbon	No	2016		Denver Water uses enhanced treatment to remove the required amount of natural organic material and/or demonstrates compliance with alternative criteria.		n/a	Naturally present in the environment
Radionuclides	Violation	Collection Year	Average	Range	MCL	MCLG	Typical Source
Gross Alpha	No	2016	br	br-10	15		pc/l
Uranium	No	2016	0.5	br-14	30	0	ppb
Disinfection By-Products	Violation	Collection Year	Highest Annual Average	Range of All Samples	MCL	MCL	CCR Unit
"Total Haloacetic Acids (HAA5)"	No	2016	17	6.0-28.0	60		ppb
"Total Trihalomethanes (THM)"	No	2016	27	14.0-42.0	80		ppb
Lead and Copper	Exceedance	Collection Period	90th Percentile	Number of Sites Exceeding Action Level	Action Level	CCR Unit	Typical Source
Copper ³	No	April-June '16	0.26	0 of 167	13		Corrosion of household plumbing systems.
Lead	No	April-June '16	10	7 of 167	15		Corrosion of household plumbing systems.
Copper	No	July-Nov '16	0.24	0 of 356	13		
Lead	No	July-Nov '16	10	13 of 356	15		
Secondary Contaminants / Other Monitoring	Collection Year	Collection Year	Average	Range	"Secondary MCL"	CCR Unit	Typical Source
Sodium	2016	2016	14.8	7.5-20	n/a		
Sulfate	2016	2016	40.0	16-67	250		Naturally present in the environment
Aluminum	2016	2016	35.0	13-123	50-200		Erosion of natural deposits; water treatment chemicals
Manganese	2016	2016	7.0	br-28	50		Erosion of natural deposits; discharge of drilling waste
Chloride	2016	2016	19	4-35	250		Erosion of natural deposits; landfills, run-off, water treatment chemicals
Copper	2016	2016	0.003	br-.02	1		
Iron	2016	2016	0.02	br-.14	0.3		
Zinc	2016	2016	0.002	br-.005	5		Erosion of natural deposits
Raw Source Water	Collection Year	Positives	Sample Size				
Cryptosporidium	2016	4	38	Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration and conventional water treatment removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our raw water 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, immune-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immune-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 water. Cryptosporidium has never been detected in Denver Water's finished drinking water.			

¹The Fluoride SMCL of 2 mg/L triggers notifying the Public of the exceedance. Other SMCL's are non-enforceable.

²Turbidity has no known health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth.

³The last compliance sampling for lead and copper was in the Fall of 2016, the next one will be in the Spring of 2017. The results in the table are from the Spring and Fall of 2016.

Violations, Significant Deficiencies, and Formal Enforcement Actions

ECCV is required to report any violations, significant deficiencies, and formal enforcement actions involving its water system. The District did not receive any violations or formal enforcement actions in 2015, however, a significant deficiency was noted. Information regarding the deficiency and the corrective actions to date are described in the table below.

Significant Deficiencies			
Date Identified	Deficiency Description	Steps Taking to Correct and Progress To Date	Estimated Completion Date
05/22/2015	R540 - DESIGN APPROVAL; System has not received plans and specs approval for the system or for renovations to the system, including the addition of new sources, changes in treatment or changes in the distribution system. This is an alleged violation of CPDWR 1.1;	ECCV has submitted plans and specification documents for CDPHE approval. Approval of all facilities was obtained on May 25, 2016.	05/25/2016