

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017

Presented By
City of Westminster

Quality First

The City of Westminster is proud to present our annual water quality report. We are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users.

Community Participation

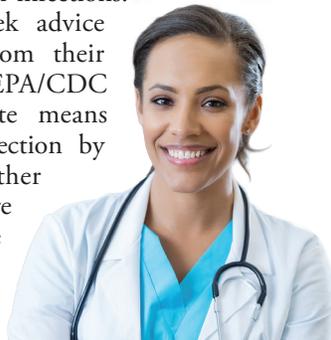
Citizens are invited to provide comments about drinking water quality at City Council meetings. Westminster City Council meets in regular session on the second and fourth Mondays of each month at 7:00 p.m. in the Council Chambers at Westminster City Hall, 4800 W. 92nd Avenue. Refer to the City's website at www.cityofwestminster.us for changes to the meeting schedule.

Important Health Information

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 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 (800-426-4791).

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, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).



Substances That Could Be in Water

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations which limit 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.

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, in some cases, radioactive material; and 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Looking For Information?

Welcome to **W ACCESS** WESTMINSTER

This site is designed to provide our residents, businesses and visitors with access to information and services in the City of Westminster 24 hours a day, 7 days a week, from the comfort of your own home.

Search by key words to find answers quickly

Search

Available on the App Store
Submit issues from your iPhone

Available on the Android™
Submit issues from your Android Phone

QUESTIONS?

For more information about this report or any questions related to your drinking water, please call our Water Quality staff at (303) 658-2461.

Where Does My Water Come From?

The City of Westminster's customers are fortunate because we enjoy a high quality water supply. The Semper and Northwest Water Treatment Facilities draw water from Standley Lake, which holds about 13 billion gallons of water. Standley Lake is filled with surface water from Clear Creek - originating as snow or rain near the Continental Divide.

Source Water Assessment

The Colorado Department of Public Health and Environment (CDPHE) has provided us with a Source Water Assessment Project report (SWAP) for our water supply. The SWAP provides a screening evaluation of potential contamination that could occur. It does not mean that the contamination has occurred or will occur. This information will be used to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. A copy of the report is available at www.colorado.gov/cdphe/dir/wq/swap/adams/101170westminstercityof.pdf or by contacting Westminster's Water Quality staff at (303) 658-2461. Potential sources of contamination to our source water include existing/abandoned mines, above-ground and underground leaking storage tanks, EPA abandoned contaminated sites and Superfund sites, EPA chemical inventory/storage site and toxic release inventory sites, EPA hazardous waste generators, permitted wastewater discharges, solid waste sites, forests, residential areas, urban recreational grasses, commercial/industrial transportation, quarries/strip mines/gravel pits, row crops, fallow and pasture/hay, septic systems, oil/gas wells and roads.



What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef. According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish. To check out your own water footprint, go to <http://goo.gl/QMoLXT>.

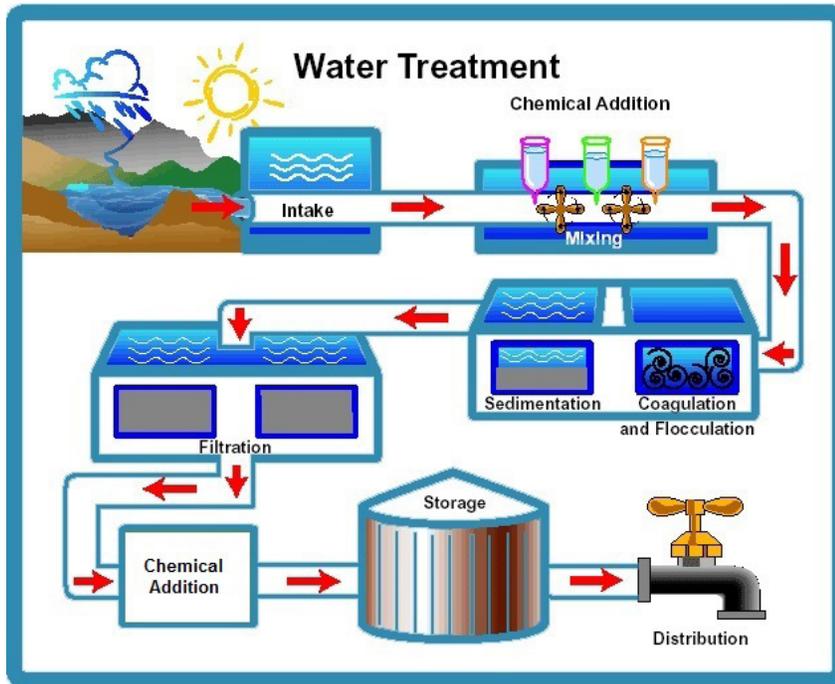
Lead in Home Plumbing

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. We are 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 www.epa.gov/lead.



Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips: Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity. Turn off the tap when brushing your teeth. Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year. Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year. Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.



Westminster's Water Treatment Facilities

- Semper
 - 44 million gallons per day capacity
 - Conventional filtration
- Northwest
 - 15 million gallons per day capacity
 - Membrane filtration

Water Treatment and Distribution

The treatment process begins with the initial chemical assessment of the water coming into the facility from the lake. Water quality changes constantly based on lake conditions; therefore, it is critical that the process is monitored 24/7 by on-site staff. Certified treatment operators continuously adjust and balance treatment options to provide consistent quality in the finished water that comes out of your faucet.

Chemicals are added during water treatment to remove impurities from the lake water and optimize the treatment process. The chemicals react with the impurities to form larger particles during the coagulation/flocculation stage of the process. These larger, heavier particles settle out of the water during the sedimentation stage. Ammonia and chlorine are added during the disinfection stage in the proper concentrations to make sure the water is free of harmful bacteria by the time it gets to your home.

The treated water is stored in tanks until it is pumped into the distribution system which consists of over 500 miles of pipes that bring treated drinking water to individual consumers. The system is a complex infrastructure of pumps and hydrants designed to ensure there is enough water pressure for homes as well as for fire fighting efforts when the need arises. Occasional flushing of sections of the distribution system may be required to bring fresh water into locations where water usage is lower than expected to ensure that the highest quality of water is available to all residents.

Test Results

During 2017, hundreds of water samples were tested to determine the presence of regulated radioactive, biological, inorganic, organic, and volatile organic compounds. The tables below include only those contaminants that were detected in the drinking water. The amount detected is reported as the maximum range value unless otherwise specified. The State recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included along with the year in which the sample was collected and tested.

REGULATED SUBSTANCES								
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Alpha Emitters (pCi/L)	2011	15	0	2.0	1.2–2.0	No	Erosion of natural deposits	
Barium (ppm)	2017	2	2	0.051	0.049–0.051	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Beta/Photon Emitters ¹ (pCi/L)	2011	50	0	2	0.8–2.0	No	Decay of natural and man-made deposits	
Chloramines ² (ppm)	2017	[4]	[4]	1.9	1.5–2.8	No	Water additive used to control microbes	
Chromium (ppb)	2017	100	100	1	ND–1	No	Discharge from steel and pulp mills; Erosion of natural deposits	
Combined Radium (pCi/L)	2011	5	0	0.1	0.1–0.1	No	Erosion of natural deposits	
Fluoride (ppm)	2017	4	4	0.54	0.54–0.54	No	Erosion of natural deposits	
Haloacetic Acids [HAA] ³ (ppb)	2017	LRAA < 60	NA	13.4	10.9–15.7	No	By-product of drinking water disinfection	
Nitrate (ppm)	2017	10	10	0.13	0.13–0.13	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
TTHMs [Total Trihalomethanes] ³ (ppb)	2017	LRAA < 80	NA	33.6	23–38.5	No	By-product of drinking water disinfection	
Total Coliform Bacteria (% positive samples)	7/2017	5% or fewer of monthly samples are positive	NA	0.83	NA	No	Naturally present in the environment	
Total Organic Carbon ³ (ppm)	2017	TT= RAA <2	NA	1.7	1.3–1.7	No	Naturally present in the environment	
Turbidity ⁴ (NTU)	2017	TT	NA	0.083	0.012–0.083	No	Soil runoff	
Turbidity (Lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff	
Uranium (ppb)	2011	30	0	1.2	ND–1.2	No	Erosion of natural deposits	
Tap water samples were collected for lead and copper analyses from sample sites throughout the community ⁵								
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	RANGE LOW-HIGH	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.13	0.016–0.20	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	1	ND–6	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

ADDITIONAL DRINKING WATER DATA FOR 2017

ANALYTE	CONCENTRATION RANGE
Total Dissolved Solids	179–286 ppm
pH	8.1–8.9
Conductivity	298–476 $\mu\text{S}/\text{cm}$
Alkalinity (as CaCO_3)	52–69 ppm
Total Hardness (as CaCO_3)	138 ppm = approximately 8 grains per gallon
Sodium	23–28 ppm
Ammonia (as N)	0.35–0.63 ppm

¹ The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

² The Amount Detected for chloramine represents the average of individual sample results collected in the distribution system. 100% of the samples collected at the entry points to the distribution system met the TT requirement that at least 95% of samples collected in one month must be at least 0.2 ppm.

³ Total Organic Carbon is regulated as quarterly running annual average (RAA). HAAs and TTHMs are regulated as locational running annual average (LRAA). The Amount Detected represents the highest RAA or LRAA, and the Range Low-High represents individual sample results.

⁴ Turbidity is measured at the water treatment plant to assess cloudiness of the water as a good indicator of the effectiveness of the filtration process. The more restrictive TT for the membrane treatment plant requires that a maximum single sample result must not exceed 0.5 NTU and, in any month, at least 95% of the samples must be less than 0.1 NTU. The highest turbidity result was recorded in May 2017.

⁵ Copper and lead were measured at residential taps throughout the City in 2017. The Action Level (AL) for copper applies to the 90th percentile of all samples collected (i.e., 90% of all sample results for copper must be below 1.3 ppm). Amount detected represents the 90th percentile and the Range Low-High represents individual results. None of the locations exceeded the AL.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.