

A photograph of a clear glass being filled with water from a silver pitcher. The water is captured in mid-pour, creating a dynamic splash and bubbles. The background is a soft, light blue gradient.

Annual
WATER
QUALITY
REPORT
Reporting Year 2012

Presented By _____
City of Westminster

PWS ID#: CO0101170

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Meeting the Challenge

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2012. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.



Where Does My Water Come From?

The City of Westminster customers are fortunate because we enjoy a high-quality water supply that originates on the mountain peaks of the Continental Divide. Our Semper and Northwest Water Treatment Facilities draw water from Standley Lake which is filled with surface water flows mainly from Clear Creek. Snow melt and rain from the watershed flow down Clear Creek and are transported to the lake via three separate canals.

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.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. 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.

Important Health 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. Immunocompromised persons such as persons with cancer undergoing chemotherapy, people 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 (U.S. EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants, call the U.S. EPA Safe Drinking Water Hotline at (800) 426-4791.

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 we 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 (800) 426-4791 or at www.epa.gov/safewater/lead.

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 flocculation stage of the process. These larger, heavier particles settle out of the water during the sedimentation stage. Ammonia and chlorine are carefully added during the disinfection stage in just the right 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 495 miles of pipes that bring treated drinking water to individual consumers. The system consists of 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 so as to ensure that the highest quality of water is available to all residents.

QUESTIONS?

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

Water Conservation 2013

Water conservation is a top priority for the City. On March 25th, City Council formally adopted a Water Conservation Plan that sets a road map for the City to save 2,200 acre feet of water (each acre foot is 325,851 gallons of water) by the time Westminster is fully developed. Westminster's customers are already using water very efficiently, and savings will increase as old water fixtures are replaced and new construction meets higher efficiency standards.



When customers are replacing water fixtures and appliances, water efficiency is always a good investment. These fixtures and appliances pay for themselves by using less water and lowering both water and sewer bills. Look for the WaterSense seal for fixtures that use at least 20 percent less water than standard models and are tested to assure they perform well. Appliances that are both water and energy efficient display the Energy Star seal.



If you want to save water and money on outdoor irrigation, you can sign up for a free irrigation audit through the Slow the Flow program. In 2013, the City has a limited number of free irrigation audits available. An auditor will inspect your yard and irrigation system, highlighting any needed improvements and creating a custom watering schedule for your lawn. This program is very popular and fills up each year. To register, go to ConservationCenter.org or call (303) 999-3820 x217.

For more information on indoor and outdoor conservation as well as recommendations for wise water use, go to the City's water conservation web pages at <http://www.ci.westminster.co.us/Environment/WaterUseConservation.aspx>.



Source Water Assessment

The Colorado Department of Public Health and Environment (CDPHE) has provided us with a Source Water Assessment and Protection 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 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.cdphe.state.co.us/wq/sw/swapreports/swapreports.html 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.

Additional Drinking Water Results Ranges for 2012

Analyte	Concentration Range
Total Dissolved Solids	193 - 235 ppm
Sulfate	65 ppm
pH	8.0 - 9.0
Conductivity	333 - 406 μ S/cm
Alkalinity (as CaCO ₃)	48 - 62 ppm
Total Hardness (as CaCO ₃)	120 ppm = approximately 7 grains per gallon
Sodium	17 - 19 ppm
Ammonia (as N)	0.12 - 0.22 ppm

Sampling Results

All drinking water supplied to Westminster residents met the quality criteria established by the U.S. EPA and the State of Colorado. During the past year, we collected thousands of water samples in order to determine the presence of biological, inorganic, organic, or radiological contaminants. The tables below list only those regulated contaminants that were detected in the treated water in 2012.

The state requires us to monitor for certain substances less often 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.

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)	2012	2	2	0.04	0.03–0.04	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Beta/Photon Emitters ¹ (pCi/L)	2011	50	0	2.0	0.8–2.0	No	Decay of natural and man-made deposits	
Chloramines ² (ppm)	2012	[4]	[4]	1.7	0.8–2.2	No	Water additive used to control microbes	
Combined Radium (pCi/L)	2011	5	0	0.1	0.1–0.1	No	Erosion of natural deposits	
Fecal coliform and <i>E. coli</i> ³ (# positive samples)	2012	Routine and a repeat sample are Total Coliform Positive; and one is also Fecal Positive/ <i>E. coli</i> Positive		0	1	NA	No	Human and animal fecal waste
Fluoride (ppm)	2012	4	4	0.5	0.5–0.5	No	Erosion of natural deposits	
Haloacetic Acids [HAAs]–Stage 2 ² (ppb)	2012	LRAA < 60	NA	11.6	8.0–14.1	No	By-product of drinking water disinfection	
Nitrate ⁴ (ppm)	2012	10	10	0.08	0.07–0.08	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Nitrite ⁴ (ppm)	2012	1	1	0.06	0.06–0.06	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Total Trihalomethanes [TTHMs]–Stage 2 ² (ppb)	2012	LRAA < 80	NA	29.2	20.5–35.8	No	By-product of drinking water disinfection	
Total Coliform Bacteria ⁵ (% positive samples)	2012	5% of monthly samples are positive		0	1.6	NA	No	Naturally present in the environment
Total Organic Carbon ² (ppm)	2012	TT = RAA < 2		NA	1.4	1.2–1.4	No	Naturally present in the environment
Turbidity ⁶ (NTU)	2012	TT = no sample above 1.0		NA	0.069	0.01–0.069	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2012	TT = 95% of samples < 0.3		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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper ⁷ (ppm)	2011	1.3	1.3	0.23	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

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 Chloramines represents the average of all individual sample results. Total Organic Carbon is regulated as quarterly running annual average (RAA). HAA and THMs are regulated as Locational Running Annual Average (LRAA). The Amount Detected represents the highest RAA or LRAA and the Range Low-High represents the range of individual sample results.

³ Fecal coliforms and *E. coli* are bacteria whose presence indicates the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems. One *E. coli* positive sample was reported in December 2012.

⁴ Nitrate and Nitrite results are reported as Nitrogen.

⁵ The greatest number of Total Coliform positive samples was collected in August 2012.

⁶ Turbidity is measured at the water treatment plant to assess cloudiness of the water as a good indicator of the effectiveness of the filtration system. The highest turbidity result was recorded on July 3, 2012.

⁷ The Action Levels for lead and copper apply to the 90th percentile of all samples collected; 90 percent of all samples collected (or 9 out of 10) must be below the Action Level. The 90th percentile result for lead samples was below the detection level of 3 ppb.

Definitions

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

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.

µS/cm (microsiemens per centimeter): A unit expressing the amount of electrical conductivity of a solution.