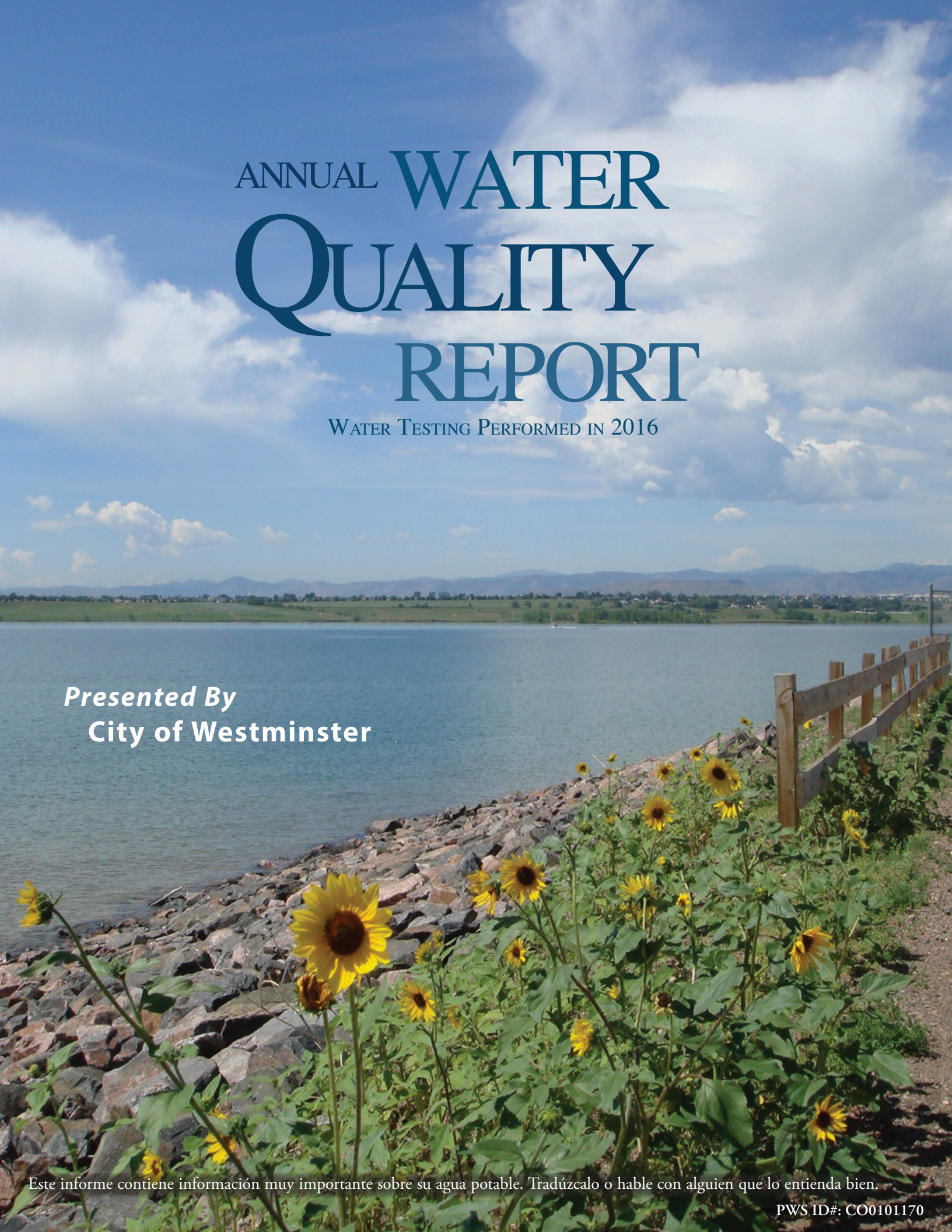
ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2016



Presented By

City of Westminster

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

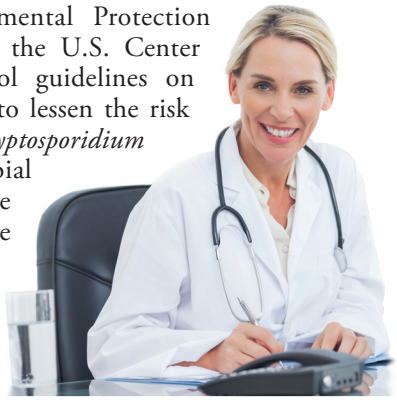
PWS ID#: CO0101170

We've Come a Long Way

Once again we are proud to present our annual water quality report covering the period between January 1 and December 31, 2016. In a matter of only a few decades, drinking water has become exponentially safer and more reliable than at any other point in human history. Our exceptional staff continues to work hard every day—at any hour—to deliver the highest quality drinking water without interruption. Although the challenges ahead are many, we feel that by relentlessly investing in customer outreach and education, new treatment technologies, system upgrades, and training, the payoff will be reliable, high-quality tap water delivered to you and your family.

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. 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 from infections. These people should seek advice about drinking water from their health care providers. More information about contaminants and the potential health effects, and the U.S. Environmental Protection Agency (EPA) and the U.S. Center for Disease Control 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 that limit the amount of certain contaminants in water provided by public water systems. The 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 storm-water 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 storm-water 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 storm-water 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.

Source Water Assessment

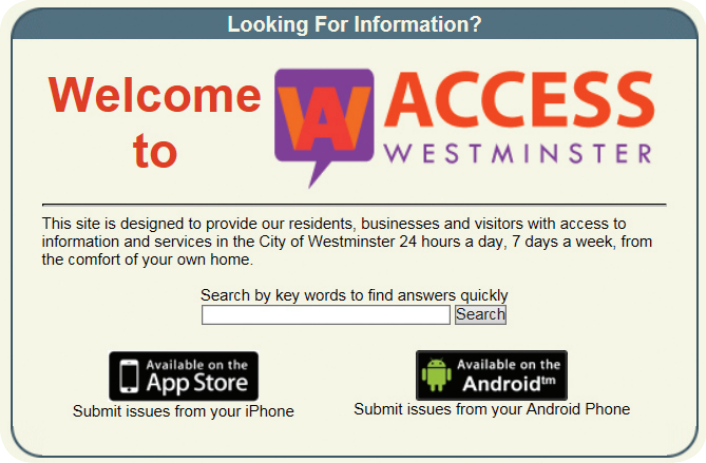
The Colorado Department of Public Health and Environment (CDPHE) has provided us with a Source Water Assessment Project (SWAP) report for our water supply. The SWAP provides a screening evaluation of potential contamination that could occur. It does not mean that the contamination has occurred or will 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/cdphedir/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.

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.

ADDITIONAL DRINKING WATER DATA FOR 2016 (NOT COMPLIANCE SAMPLES)

ANALYTE	CONCENTRATION RANGE
Total Dissolved Solids	197–268 ppm
pH (Units)	8.0–8.7
Conductivity	328–447 µS/cm
Alkalinity (as CaCO3)	55–75 ppm
Total Hardness (as CaCO3)	130 ppm = approximately 8 grains/gallon estimated based on historical magnesium data
Sodium	22–24 ppm
Ammonia (as N)	0.36–0.52 ppm



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 7:30 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.

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.

Checking Water Quality All Along the Way

Clear Creek

- Mountain peaks to Golden
- Surface water flows
- Snow melt and rain
- Low and high flows monitored

Standley Lake

- 3 canals bring water to lake
- Raw water storage
- Holds 13 billion gallons
- Evaluate water for treatment impacts
- Chemistry and biology assessed

Water Treatment Facilities

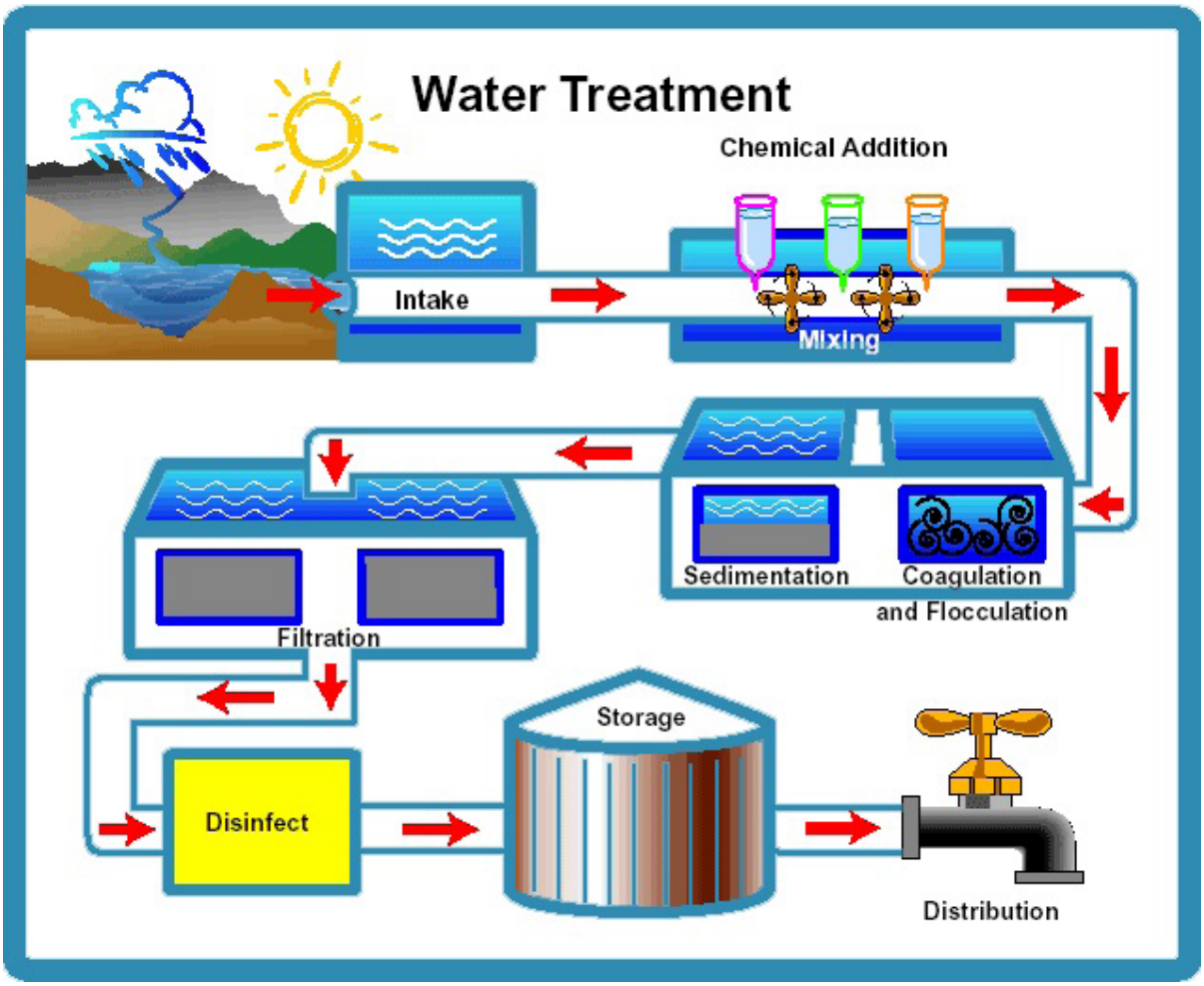
- Observe treatment process
- Check treated water quality
- Meets drinking water standards

Treated Water Distribution System

- Over 500 miles of pipes
- 11 storage tanks = capacity 34 million gallons
- Sample 120 locations every month
- Ensure water free of harmful bacteria

Residential Taps

- Verify water is not corrosive
- Customers also check the quality
- Call us if you have questions



Water Treatment Facilities

Semper

- 44 million gallons per day capacity
- Conventional filtration
- Chloramines disinfection

Northwest

- 15 million gallons per day capacity
- Membrane filtration
- Chloramines disinfection

Sampling Results

During 2016, hundreds of water samples were tested to determine the presence of any radioactive, biological, inorganic, or volatile organic contaminants. 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 taken.

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)	2016	2	2	0.06	0.05–0.06	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)	2016	[4]	[4]	1.9	1.4–2.6	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
Di(2-ethylhexyl) Phthalate (ppb)	2015	6	0	0.7	0.7–0.7	No	Discharge from rubber and chemical factories
E. coli[3] (# positive samples)	2016	Routine and a repeat sample are Total Coliform positive, and one is also fecal positive/*E. coli* positive	0	*E. coli* was present in one routine sample. All repeat samples were negative.	NA	No	Human and animal fecal waste
Fluoride (ppm)	2016	4	4	0.61	0.60–0.61	No	Erosion of natural deposits
Haloacetic Acids [HAA][4] (ppb)	2016	LRAA < 60	NA	14.5	9.4–17.5	No	By-product of drinking water disinfection
Nitrate (ppm)	2016	10	10	0.09	0.09–0.09	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 2[4] (ppb)	2016	LRAA < 80	NA	31.5	21.4–39.9	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2016	5% of monthly samples are positive	NA	0.76% (1 positive sample of 132)	NA	No	Naturally present in the environment
Total Organic Carbon[4] (ppm)	2016	TT = RAA < 2	NA	1.5	1.3–1.6	No	Naturally present in the environment
Turbidity[5] (NTU)	2016	TT = no sample above 0.5	NA	0.09	0.013–0.09	No	Soil runoff
Turbidity (lowest monthly percent of samples meeting limit)	2016	TT = 95% of samples <0.1	NA	100	NA	No	Soil runoff
Uranium (ppb)	2011	30	0	1.2	ND–1.2	No	Erosion of natural deposits

Tap Water Samples 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[6] (ppm)	2014	1.3	NA	0.26	0/51	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead[6] (ppb)	2014	15	NA	2	0/51	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Nickel (ppm)	2016	0.001	0.001–0.001	Discharge from metal refineries

[1] The MCL for beta particles is 4mrem/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.
[3] Although *E. coli* was detected in July 2016, the water system is not in violation of the *E. coli* MCL.
[4] Total Organic Carbon is regulated as a quarterly running annual average (RAA). HAAs and TTHMs are regulated as location running annual average (LRAA). The Amount Detected represents the highest RAA or LRAA, and the Range Low-High represents individual sample results.
[5] Turbidity is a measure of the cloudiness of the water as a good indicator of the effectiveness of the filtration system. The highest turbidity result was recorded in April 2016.
[6] Copper and lead were measured at residential taps throughout the City in 2014. The Action Level (AL) for copper applies to the 90th percentile of all samples collected (i.e., 90% of all sample results 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. Copper and lead are tested at residential taps every three years.

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 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.