

North Carter Lake Water District Water Quality Report for Year 2016

We are pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water at the lowest possible cost. If you know customers who live in apartments or other living units that are not billed directly for water, please share this report with them.

The District's raw water is treated and delivered back to the District through transmission lines and master meters by Little Thompson Water District (PWSID CO0135477). The water is treated at the Carter Lake Filter Plant (PWSID CO0135476). The Carter Lake Filter Plant receives water from Carter Lake, a part of Northern Colorado Water Conservancy District's (NCWCD) Colorado Big Thompson Project. The water is collected in Western Slope reservoirs and transported through the Alva B. Adams Tunnel to Mary's Lake, Lake Estes, Pinewood Reservoir, Flatiron Reservoir, and finally pumped to Carter Lake.

Safe drinking water is an essential resource. The North Carter Lake Water District and Carter Lake Filter Plants strive to consistently meet or exceed state and federal water quality standards.

The Colorado Department of Public Health and Environment has provided a Source Water Assessment Report for the Carter Lake Filter Plant water supply. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that could occur. It does not mean that contamination has or will occur. Rather, this information is used to evaluate the need to improve water treatment capabilities and to prepare for future contamination threats. This information is used to ensure that quality finished water is delivered to you. In addition, the source water assessment results provide a starting point from which a source water protection plan may be developed. Potential sources of contamination within the source water area include EPA hazardous waste generators, EPA chemical inventory/storage sites, EPA toxic release inventory sites, permitted wastewater discharge sites, aboveground, underground and leaking storage tank sites, solid waste sites, existing/abandoned mine sites and other facilities, commercial/industrial/transportation, low intensity residential, urban recreational grasses, row crops, fallow, small grains, pasture/hay, forests, septic systems, oil/gas wells and road miles. You may obtain a copy of the report by visiting www.cdphe.state.co.us/wq/sw/swaphom.html.

The source water from Carter Lake is tested annually for both Cryptosporidium and Giardia. There has never been a positive test for either organism in the source water or treated water during the period of testing.

If you have any questions about this report or concerning your water utility, please contact **Gary Allen** at **(970)776-8218**. We want our valued customers to be informed about their water utility.

Some people may be more vulnerable to contaminants in drinking water than the public in general. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some compounds. The presence of these compounds does not necessarily indicate that the water poses a health risk. 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 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 compounds call the EPA Safe Drinking Water Hotline at 1-800-426-4791.

In order to ensure that tap water is safe to drink, EPA prescribes regulations limiting the amount of certain compounds in water provided by public water systems. The U.S. Food and Drug Administration (FDA) regulations establish limits for compounds in bottled water that must provide the same protection for public health.

The compound table contains many terms and abbreviations that may be unfamiliar. To help you better understand these terms we've provided the following definitions:

- **Action Level (AL):** The concentration of a compound, if exceeded, triggers treatment or other requirements a water system must follow.
- **Maximum Contaminant Level (MCL):** The "maximum allowed" is the highest level of a compound that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Maximum Contaminant Level Goal (MCLG):** The "goal" is the level of a compound 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 (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. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **Not Applicable (NA):** Not applicable.
- **Non-Detects (ND) or Below Detection Level (BDL):** Laboratory analysis indicates that the constituent is not present. ("<" Symbol for less than, the same as ND or BDL)
- **Nephelometric Turbidity Unit (NTU):** Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of five NTU is just noticeable to the average person.
- **Parts per billion (ppb) or Micrograms per liter (µg/l):** One part per billion corresponds to one minute in 2,000 years, or one penny in \$10,000,000.
- **Parts per million (ppm) or Milligrams per liter (mg/l):** One part per million corresponds to one minute in two years or one penny in \$10,000.
- **Treatment Technique (TT):** A treatment technique is a required process intended to reduce the level of a compound in drinking water.
- **Waiver:** State permission not to test for a specific compound.

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. Compounds that may be present in source water include:

- **Microbial compounds**, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic compounds**, such as 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** that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.

- **Organic chemical compounds**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive compounds**, that can be naturally occurring or be the result of oil and gas production and mining activities.
- **Coliforms are bacteria** that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that the lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791, or at www.epa.gov/safewater/lead.

The state 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. Some of our data, though representative, may be more than one year old. This report presents the results of our monitoring for the period January 1 to December 31, 2016 unless otherwise noted.

The Colorado Department of Public Health and Environment (CDPHE) has issued waivers to the Carter Lake Filter Plant for the following compounds: asbestos, cyanide, dioxin, glyphosphate, and nitrite.

Inorganic Compounds that were tested for, but not detected, include antimony, arsenic, beryllium, cadmium chromium, mercury (inorganic), nitrate/nitrite (as nitrogen), and selenium.

Synthetic Organic Compounds were tested for in 2016, and **none** of the 32 compounds of concern were detected.

Volatile Organic Compounds were tested for in 2016 and **none** of the 21 compounds of concern were detected.

Compounds Regulated at the Carter Lake Treatment Plant							
Compound	MCL	MCLG	Unit	Level Detected	Sample Date	Violation	Likely Source of Compound
Barium	2	2	ppm	0.15	1/25/16	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	4	4	ppm	0.63	1/25/16	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nickel	0.10	0.10	ppm	.0024	1/25/16	No	Nickel is released into the environment by power plants, metal factories, and waste incinerators. It is also used in fertilizers and enters groundwater from farm runoff.
Nitrate	10	10	ppm	0.057	1/25/16	No	Erosion of natural deposits, runoff from fertilize use, leaching from septic tanks, sewage.
Thallium	0.002	NA	ppm	0.0017	1/25/16	No	Leaching from ore-processing sites; discharge from electronics, glass and drug factories.
Turbidity ¹	TT ≤ 1	NA	NTU	0.21	12/16	No	Soil runoff
	TT ≤ 0.3	NA	NTU	95% <0.1	Continuous	No	

¹ There are two standards for turbidity. The reported monthly turbidity must be less than or equal to 0.3 NTU at least 95% of the time. Also, turbidity must never be higher than 1.0 NTU at any time. Turbidity readings ranged from 0.01 – 0.21 NTU.

Regulated Compounds in the North Carter Lake Water District

Lead and Copper	Collection Date	90 TH Percentile	Unit	AL	Action Level Exceedance	Typical Source
LEAD	March 2016	27	ppb	15	yes	Corrosion of household plumbing systems; Erosion of natural deposits.
COPPER	March 2016	0.25	ppm	1.3	no	Corrosion of household plumbing systems; Erosion of natural deposits.
LEAD	October 2016	6	ppb	15	no	Corrosion of household plumbing systems; Erosion of natural deposits.
COPPER	October 2016	0.16	ppm	1.3	no	Corrosion of household plumbing systems; Erosion of natural deposits.

North Carter Lake Water District is required to sample for lead and copper at 10 sample locations every 6 months.

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 -- Chlorine

The North Carter Lake Water District samples 1 sites per month and met the TT Requirement 100% of the time for year 2016.

Disinfection By-Products	Date	Average	Sample Size	Unit	MCL	MCLG	Violation	Typical Source
TOTAL HALOACETIC ACIDS (HAA5)	2016	27.5	1	ppb	60	N/A	NO	By-product of drinking water disinfection
TOTAL TRIHALOMETHANES (TTHM)	2016	27.1	1	ppb	80	N/A	NO	By-product of drinking water chlorination

There are no additional required health effects notices. This report reflects no violations or formal enforcement actions.