Fort Carson Water Quality Report 2013 – PWSID # CO0221445

Courtesy: Directorate of Public Works – Environmental Division

Fort Carson's water is of high quality and has been for many years. Fort Carson is committed to providing customers with a superior and reliable supply of high quality water. This report is designed to inform customers about the quality of drinking water and services delivered to their water tap every day.

Water Source Information

Fort Carson is a consecutive public water system that purchases its water from Colorado Springs Utilities [CSU] (PWSID #CO0121150). CSU gets its water from mountain streams, some local streams, local ground water, and purchases some from Fountain Valley Authority [FVA] (PWSID # CO0121300). Fort Carson's water quality may vary during the year and may be a blend of surface water and ground water.

State Source Water Assessment

The Colorado Source Water Assessment and Protection (SWAP) program is a preventative approach to protect public drinking water supplies. The Colorado Department of Public Health & Environment (CDPHE) provided CSU with a Water Assessment Report for their water sources. This report included surface water sources, purchased water source (FVA) and also wells in the Widefield aquifer (unused since 2004).

CSU is dedicated to protecting source waters and ensuring quality water is delivered to its customers. The source water assessment results are not a reflection of CSU's treated water quality at the tap, but rather a contamination susceptibility rating under guidelines of the SWAP program. The complete SWAP report for CSU can be found at the Colorado Department of Public Health & Environment's website www.colorado.gov/cdphedir/wq/swap/elpaso/121150cospringsutilitiesgwswrevised.pdf.

Possible Water Contaminants

Sources of drinking water (both tap 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 & bacteria may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, 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 contaminants, 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 contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The US FDA rules establish limits for contaminants in bottled water that must provide the same public health protection.

Vulnerable Populations Advisory

Some individuals may be more vulnerable to drinking water contaminants than the general public. Drinking water, including bottled water, may reasonably be expected to contain at least trace amounts of some contaminants. Contaminants presence does not necessarily indicate that the water poses a health risk. Immune-compromised persons; 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 drinking water advice from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the EPA and the Center 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 or visit www.epa.gov.

Lead Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water results primarily from materials and components associated with service lines and home plumbing. Fort Carson and CSU are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, minimize the potential for lead exposure by flushing the tap for 30 seconds to 2 minutes before using water for drinking or cooking. If there is a concern about lead in the water, the water may be tested. Information on lead in drinking water, testing methods, and steps to take to minimize exposure is available from the EPA Safe Drinking Water Hotline at 1-800-426-4791 or at www.epa.gov.

Fort Carson tests for lead and copper at more than 30 cantonment sites, emphasizing family housing, child development centers & schools.

Fluoride Information

Fluoride is an element found naturally in many places; including soil, food, plants, animals and the human body. Neither CSU nor Fort Carson adds additional fluoride to your drinking water. Any fluoride in the drinking water results from what occurs naturally in source waters.

Microbiological Information

CSU and FVA perform analyses on source water and finished water to determine treatment and filtering effectiveness of their processes, related to microbiological contaminants, such as *cryptosporidium*. These analyses show adequate treatment that is within regulatory requirements.

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes *cryptosporidium*, most filtration methods cannot guarantee 100 percent removal. CSU's monitoring indicates the presence of these organisms in source water. However, no organisms were detected in drinking water distributed to customers. Current test methods don't allow determination whether these organisms are dead or able to cause disease. Ingestion of *cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Infection symptoms include nausea, diarrhea, and abdominal cramps. Most healthy individuals overcome the disease within a few weeks. However, immune-compromised people have greater risk of developing life-threatening illness. These individuals are encouraged to consult their doctor regarding proper precautions needed to avoid infection. *Cryptosporidium* must be ingested to cause illness, and it may be spread in a way other than drinking water. For more information on *cryptosporidium* visit http://water.epa.gov/drink/contaminants/basicinformation/pathogens.cfm.

Unregulated Contaminant Monitoring Rule (UCMR2)

CSU has sampled for a series of unregulated contaminants at its treatment plants and throughout the distribution system. UCMR2 is a fact finding program authorized under the Safe Drinking Water Act (SDWA) by the EPA. The EPA has not set any maximum contaminant levels for the contaminants listed under UCMR2. The EPA will evaluate UCMR2 data collected throughout the United States to determine if any of the contaminants require regulation. Out of 25 contaminants required for testing only one was detected.

Contaminant	MCL	MCLG	Units	Level Detected (Range)	Violation Yes or No	Sample Dates	Likely Source of Contaminant
N-Nitrosodimethylamine	N/A	N/A	ppb	0.0035 (0.0021-0.0063)	N/A	Mar, Jun, Sep, Dec '08	Cosmetics industry; Toiletry products; Cleansers; Byproducts of natural chemical reactions

Definitions

This report contains terms and abbreviations that may be unfamiliar. To better understand these terms, the following definitions are provided:

- AL-Action Level: The concentration of a contaminant, if exceeded, triggers treatment or other requirements a water system must follow.
- MCL-Maximum Contaminant Level: The "maximum allowed" is 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 "goal" is 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.
- N/A: Not applicable
- NTU-Nephelometric Turbidity Unit: NTU is a measure of the clarity of water. Turbidity in excess of five NTU is just noticeable to the average person.
- ND-Non-detect: Laboratory analysis indicates that the constituent is not present.
- **µg/L**- micrograms per liter or parts per billion (ppb): One part per billion corresponds to one minute in 2,000 years or one penny in $10,000,000.
- mg/L- milligrams per liter or parts per million (ppm): One part per million corresponds to one minute in two years or one penny in $10,000.
- pCi/L-Picocuries per liter: A measure of the radioactivity in water.
- RAA-Running Annual Average: Monitoring requirements based; average of 12 successive monthly averages or average of 4 successive quarter averages
- TT-Treatment Technique: A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- Waiver: State permission not to test for a specific contaminant.

Tables of Detected Contaminants

CDPHE requires CSU to monitor some contaminants less than annually, as concentrations of these contaminants isn't expected to vary notably from year-to-year; or the system is considered lower risk for this contaminant. Some data, though representative, may be older than a year.

Fort Carson is a consecutive public water system which purchases its finished water from Colorado Springs Utilities and indirectly, in part, from the Fountain Valley Authority. CSU does the majority of the compliance monitoring for this drinking water and their monitoring information is included with this report. Fort Carson also performs its own water quality monitoring which included the following for calendar year 2012:

- Coliform Bacteria: 30 analyses per month or 360 for calendar year 2012 (NO POSITIVE SAMPLES IN 2012)
- Trihalomethanes (TTHM): 4 sites analyzed quarterly and an additional 8 sites analyzed bi-monthly
- Haloacetic Acids (HAA5): 4 sites analyzed quarterly and an additional 8 sites analyzed bi-monthly
- Lead and Copper: 37 sites analyzed last September; a mixture of residential, schools and child development centers

The table shows combined result of CSU's & Fort Carson's monitoring for period of January 1 to December 31, 2012, unless otherwise noted:

Contaminant	MCL	MCLG	Units	Level Detected (Range)	Violation; Yes or No	Sample Dates	Likely Source of Contaminant
Total Organic Carbon (TOC)	TT	N/A	N/A	N/A**	No	RAA	Naturally present in environment
***The Disinfectants and Disinfection Byproducts Rule provides several alternative compliance criteria besides the TOC removal ratios. CSU did not report TOC removal ratios because they met alternative compliance criteria. The alternative compliance criteria that CSU uses is 40CFR §141.135 (a)(2)(ii). Their treated water TOC levels are <2.0 ppm, calculated quarterly as a running annual average.*							
Turbidity*	TT ≤0.3 in 95% of monthly samples	N/A	NTU	Highest turbidity 0.82 (Jun 2012) ---------- >95% of samples ≤0.3	No	Jan-Dec 2012	Soil Runoff
**Turbidity is a measure of cloudiness of water. Turbidity monitoring is required because it's a good indicator of the filtration system effectiveness.*							
Inorganic Contaminants							
Barium	2	2	ppm	0.0495 (0.0178-0.0495)	No	Apr 2012	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	ppb	0.63 (ND-0.63)	No	Apr 2012	Discharge from steel and pulp mills, erosion of natural deposits
Fluoride	4	4	ppm	1.73 (0.13-1.73)	No	Apr 2012	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer & aluminum factories
Nitrate (as Nitrogen)	10	10	ppm	0.29 (ND-0.29)	No	Apr 2012	Fertilizer; septic tanks leaching, sewage; natural deposits erosion
Selenium	50	50	ppb	3.7 (ND-3.7)	No	Apr 2012	Petroleum, metal refineries & mines discharge; natural deposits erosion
Unregulated Inorganic Contaminants							
Nickel	N/A	N/A	ppb	1.3 (ND-1.3)	N/A	Apr 2012	Natural deposits erosion; industries refineries & steel mills discharge
Sodium	N/A	N/A	ppm	15.1 (5.87-15.1)	N/A	Apr 2012	Natural deposits erosion
Regulated Organic Contaminants							
Hexachlorocyclopentadiene	50	50	ppb	0.05 (ND-0.05)	No	May, Jul, Aug, Oct '10	Chemical factories discharge
Unregulated Organic Contaminants - *Results from Fort Carson's water distribution system*							
Bromodichloromethane	N/A	N/A	ppb	8.9 – 9.8	N/A (RAA)	Feb, Apr, Jun, Aug, Dec 2012 (RAA)	By-product of drinking water disinfection
Bromoform	N/A	N/A	ppb	ND – 0.038	N/A (RAA)		
Dibromochloromethane	N/A	N/A	ppb	1.7 - 2.7	N/A (RAA)		
Chloroform	N/A	N/A	ppb	34.4-43.7	N/A (RAA)		
Radiological Contaminants							
Radium 226,228 Combined	5	0	pCi/L	0.1	No	Mar 2011	Erosion of natural deposits
Uranium	30	0	ppb	1.1	No		
Lead and Copper - *Copper & Lead results from Fort Carson's testing on the cantonment, at family housing, child development centers & schools*							
				90th Percentile (Range)			
Copper	AL=1.3 for 90th %	1.3	ppm	0.108 (ND-0.510)	No	Sep 2012	Household plumbing systems corrosion; Natural deposits erosion
Lead	AL=15 for 90th %	0	ppb	2.3 (ND-39)	No		
37 sites sampled – Zero samples exceeded the Action Level for Copper – One sample exceeded the Action Level for Lead							
Volatile Organic Contaminants - *Chlorine, HAA5 & TTHM results are from Fort Carson's water distribution system*							
Chlorine	MRDL=4	MRDLG =4	ppm	0.24 - 0.30	No (RAA)	RAA	Water additive; control microbes
Haloacetic Acids 5 (HAA5)	60 (RAA)	N/A	ppb	19.0 – 23.3	No (RAA)	RAA	Water disinfection by-product
Trihalomethanes (TTHM)	80 (RAA)	N/A	ppb	47.1 – 55.0	No (RAA)		

CDPHE has issued CSU waivers for asbestos, cyanide, dioxin, glyphosate, nitrite, and all unregulated inorganic contaminants.

MORE INFORMATION

Have questions concerning this report? Please call the DPW Environmental Division Water Programs at (719) 526-1730 or CSU at (719) 668-4560 or visit http://www.csu.org. CSU Water Quality Report: https://www.csu.org/CSUDocuments/waterqualityreport2013.pdf.

Colorado Springs Utilities Board meets the Wednesday between City Council meetings.