



Federal Heights

2010 ANNUAL DRINKING WATER QUALITY REPORT

For Calendar Year 2009

Public Water System Identification # CO-0101055

Esta es informacion importante. Si no la pueden leer, necesitan que alguien se la traduzca

We are pleased to present to you this year's Annual Water Quality Report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact the Public Works Superintendent at 303-428-0422 to learn more about what you can do to help protect your drinking water sources, any questions about this report, to learn more about our system or to attend any scheduled public meetings. We want our valued customers to be informed about your water utility, the services we provide and the quality water we deliver to you every day.

Approximately 93% of our supplied water was treated surface water purchased from the City of Westminster. Their source water is from Standley Lake, which is located west of the City. Up until March of 2010 areas of Westminster and Federal Heights were also supplied with water treated by the City of Thornton. The remaining 7% was provided by two 800 foot deep wells, located within the city limits of Federal Heights, drawing groundwater from the Arapahoe aquifer. Due to our distribution system design and varying flows, residents may receive water from any one, or a blending of, these sources.

All sources are routinely monitored for constituents in your drinking water according to Federal and State laws. In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment (CDPHE) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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. 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 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 EPA and 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.

The 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. It can also 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 and bacteria that 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** – 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. It also may come from gas stations, urban stormwater runoff and septic systems.
- **Radioactive Contaminants** – Can be naturally occurring or be the result of oil and gas production and mining activities.

Source Water Assessment Report (SWAP) Information:

The Colorado Department of Public Health and Environment (CDPHE) has provided us with a "Source Water Assessment Report" for our water supply. You may obtain a copy of the report by calling the listed Public Works contact at 303-428-0422 or accessing the SWAP website at www.cdphe.state.co.us/wq/sw/swaphom.html

Potential sources of contamination in our source water area include:

- **Commercial/Industrial Areas** such as: Dry cleaning businesses; Food processing plants; Gas stations and fueling areas; Commercial & Industrial transportation; Machine or maintenance & repair shops; Aboveground, Underground and Leaking storage tank sites
- **Residential/Municipal Areas** such as: High and Low Intensity residential areas; Parks & Recreational areas; Historic landfills; Transportation corridors and utility stations
- **Agricultural/Rural Areas** such as: Row Crops and Urban Recreational Grasses
- **Other Type Areas** such as: Septic Systems & Roads

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that **could** occur. It does not mean that the contamination **has or will** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. We have utilized related information to increase the protection around all of our groundwater wellheads and related well buildings.

Health Information About Water Quality

Lead Information:

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that 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 want to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline at 1-800-426-4791.

Radioactive Contaminants:

Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer. All detected radioactive contaminants in Federal Heights, Westminster and Thornton waters were well below the recommended "Maximum Contaminant Level" (MCL) allowed

Radon Information:

Radon is a radioactive gas that you cannot see, taste or smell. It is found in the soil throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can reach high levels in all types of homes. Radon can also be released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will be, in most cases, a small source of radon in indoor air.

Radon is a known human carcinogen. Breathing air that contains radon can lead to lung cancer. Drinking water that contains radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is four (4) picocuries per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that are relatively inexpensive. For additional information, call the State Radon Program at 303-692-3030 or call the EPA Radon Hotline at 1-800-SOS-RADON (1-800-767-7236) or visit the EPA radon information web site at www.epa.gov/safewater/radon.html.

Violations

No Violations Occurred in the Calendar Year of 2009

The City of Federal Heights routinely monitors for contaminants in your drinking water according to Federal and State laws. Only detected contaminants appear in this report. The following table shows all detections found for all source waters in the period of January 1st, 2009 to December 31st, 2009 unless otherwise noted. The Federal Heights column includes testing dates for all detected contaminants. The “Range” column in the table below will show a single value for those contaminants that were sampled only once.

The State of Colorado requires monitoring 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 contamination. Some of our data, though representative, may be more than one year old. Violations, if any, are reported in the next section of this report. Please note that suppliers (Westminster or Thornton) are not required to provide data on contaminants that Federal Heights also monitors for. Suppliers may be required to test for different contaminants due to the source of the water. (Surface water for Westminster and Thornton and ground water for Federal Heights)

DETECTED CONTAMINANTS								
Contaminant	Unit	MCL & MRDL	MCLG & MRDLG	Maximum Contaminant Level Detected			Range	Violation
				Federal Heights	Westminster	Thornton		
INORGANIC CONTAMINANTS								
Barium	ppm	2	2	0.033 (6/12/07)	0.04	0.04	0.016– 0.04	No
Chromium	ppb	100	100	2.4 (6/12/07)	N/D	2	BDL – 2.4	No
Copper	ppm	AL = 90% <1.3	1.3	0.26 (8/28/07) 90 th Percentile = 0.21	0.82 90 th Percentile = 0.48	0.43 No Samples > 1.3	0.01 – 0.82	No
Fluoride	ppm	4	4	1.4 (6/12/07)	0.60	0.90	0.60 – 1.4	No
Lead	ppb	AL = 90% <15	0	3.2 (9/9/07) 90 th Percentile = 2.1	14 90 th Percentile = 3.0	15 No Samples > 15	BDL – 15	No
Nitrate (as N)	ppm	10	10	N/D (6/17/09)	0.03	0.60	BDL – 0.60	No
MICROBIOLOGICAL CONTAMINANTS								
Total Coliform Bacteria	ct/ml	<5% positive	0	0 (10 Monthly)	1	1	0 – 1	No
Total Organic Carbon	ppm	TT RAA >1 – <2	N/A	N/T	1.50 RAA = 1.40	1 RAA = 1.00	1.0 – 1.50	No
Turbidity	NTU	TT	N/A	0.42 (4/6/09) RAA = 0.27	0.16	0.30	0.01 – 0.42	No
RADIOACTIVE CONTAMINANTS								
Alpha Emitters	pCi/l	15	0	0.50 (9/24/04)	0.4	3.0	BDL – 3.0	No
Beta Photon Emitters	pCi/l	50	0	5.3 (9/24/04)	2.1	N/A	0.10 – 5.3	No
Radium 226 + 228	pCi/l	5	0	0.50 (9/24/04)	N/D	N/D	0.20 – 0.50	No
Uranium	ppb	30	0	1.1 (9/27/04)	N/D	N/D	BDL – 1.1	No
ORGANIC CONTAMINANTS								
2,4-D (Herbicide)	ppb	70	70	N/T	N/D	0.2	BDL – 0.2	No
Chloramines (as Chlorine)	ppm	MRDL=4 RAA <4	MRDLG=4	2.2 (7/22/09) RAA = 1.73	2.9 RAA = 1.90	2.9	0.02 – 2.9	No
Haloacetic Acids	ppb	60 RAA <60	N/A	27.9 (3/11/09) RAA = 19.01 Highest RAA = 25	17.8 Highest RAA = 14	19.0 RAA = 15.0	4.0 – 27.2	No
Total Trihalomethanes	ppb	80 RAA <80	N/A	40.3 (3/11/09) RAA = 26.27 Highest RAA = 34	32.2 Highest RAA = 26	45.0 RAA = 27	15 – 45	No
SECONDARY CONTAMINANTS AND OTHER MONITORING								
Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor or color) in drinking water. EPA recommends these standards but does not require water systems to comply. Detected contaminants must be reported.								
Contaminant	Unit	Secondary Standard	Level Detected			Range		
			Federal Heights	Westminster	Thornton			
Alkalinity	ppm	N/A	N/T	51 - 64	N/A	51 – 64		
Ammonia (as N)	ppm	N/A	N/T	0.13 – 0.80	N/A	0.13 – 0.80		
Conductivity	umhos/cm	N/A	N/T	272 – 363	N/A	272 – 363		
pH	#	6.5 – 8.5	7.83 – 9.97 RAA = 8.29	7.40 – 8.70	N/A	7.40 – 9.97		
Radon 222	pCi/l	N/A	310 (9/24/04)	N/A	N/A	310		
Sodium	ppm	10,000	150 (6/12/07)	13 - 31	N/A	13 – 150		
Sulfate	ppm	250	N/T	51	N/A	51		
Total Dissolved Solids (TDS)	ppm	500	414 (9/24/04)	150 - 230	N/A	150 – 414		
Total Hardness	ppm	N/A	N/T	100	108 – 236	100 – 236		

DETECTED CONTAMINANTS – POSSIBLE SOURCE AND GENERAL TESTING INFORMATION
INORGANIC CONTAMINANTS
Barium – Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium – Discharge from steel and pulp mills; Erosion of natural deposits
Copper – Corrosion of household plumbing systems; Erosion of natural deposits, Leaching from wood preservatives – 90% of all samples taken must be within the MCL
Fluoride – Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer & aluminum factories
Lead – Corrosion of household plumbing systems; Erosion of natural deposits – 90% of all samples taken must be within the MCL
Nitrate – Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
MICROBIOLOGICAL CONTAMINANTS
Total Coliform Bacteria – Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present. Standards are not violated if not detected in repeat samples at first detect site(s)
Total Organic Carbon (TOC) – Naturally present in the environment– Differing source waters can require differing MCL requirements dependent on the type of treatment used.
Turbidity – Soil runoff – Differing source waters can require differing MCL requirements dependent on the type of treatment used.
RADIOACTIVE CONTAMINANTS
Alpha Emitters – Erosion of natural deposits
Beta Emitters – Decay of natural & man-made deposits
Radium 226 + 228 – Erosion of natural deposits
Uranium – Erosion of Natural deposits
VOLATILE ORGANIC CONTAMINANTS
2,4-D – Runoff from herbicide application
Chloramines – Water additive used to control microbes – measured in the distribution system
Haloacetic Acids (HAA) – By-product of drinking water disinfection
Total Trihalomethanes (TTHM) – By-product of drinking water disinfection
SECONDARY CONTAMINANTS/OTHER MONITORING
Alkalinity – A measure of water’s capacity to neutralize acids and is also known as the buffering capacity.
Ammonia (as N) – Additive that is sometimes utilized to improve the water disinfection processes
Conductivity – A measure of the ability of a solution (water) to carry an electric current. Utilized in corrosion control processes
pH – A measure of the acidity or alkalinity of water. pH less than 7 is considered acidic and pH greater than seven is considered basic
Radon 222 – Naturally present in the environment; Erosion of natural deposits; Byproduct of Radium 226 & 228
Sodium – Erosion of natural deposits; a byproduct of water softeners
Sulfate – A substance that occurs naturally in drinking water
Total Dissolved Solids – Erosion of natural deposits
Total Hardness – Naturally dissolved Calcium and Magnesium from soil & lime – 100 ppm is equal to approximately 6 grains per gallon 75 to 150 mg/l or ppm is considered moderately hard water

DEFINITIONS OF TERMS & ABBREVIATIONS USED IN THIS REPORT
AL – Action Level is the concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow. For lead & copper, 90% of all samples taken must be within the MCL
BDL – Below Detection Limit – If contaminant’s are present, they are below the detection limit or ability of the lab equipment.
CDC – (United States) Center for Disease Control
ct/ml – Count per milliliter
EPA – (United States) Environmental Protection Agency
FDA – The Food and Drug Administration
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. MRDLG’s do not reflect the benefits of the use of disinfectants to control microbial contaminants.
N/A – No Answer – A Selling system may not be required to report information for contaminants that the purchaser also tests for.
N/T – No Test – A system may not be required to test for certain contaminants due to population or other exemptions.
NTU – Nephelometric Turbidity Unit is a measurement of water clarity. Turbidity in excess of 5 NTU is just noticeable to the average person
pCi/L – Picocuries per liter is a measurement of the radioactivity in water.
ppb – Parts per billion or Micrograms per liter(ug/L)-One part per billion corresponds to one minute in 2,000 years, or a single cent in \$10,000,000.00
ppm – Parts per million or Milligrams per liter (mg/l) – One part per million corresponds to one minute in 2 years, or a single cent in \$10,000.00
RAA – Running Annual Average – An average of monitoring results for the previous 12 calendar months.
TT – A Treatment Technique is a required process intended to reduce the level of a contaminant in drinking water. Differing source waters can require differing MCL requirements and treatment processes dependent on the water source and the type of treatment used.
< – Less than; usually indicating lower than the testing ability of the laboratory equipment