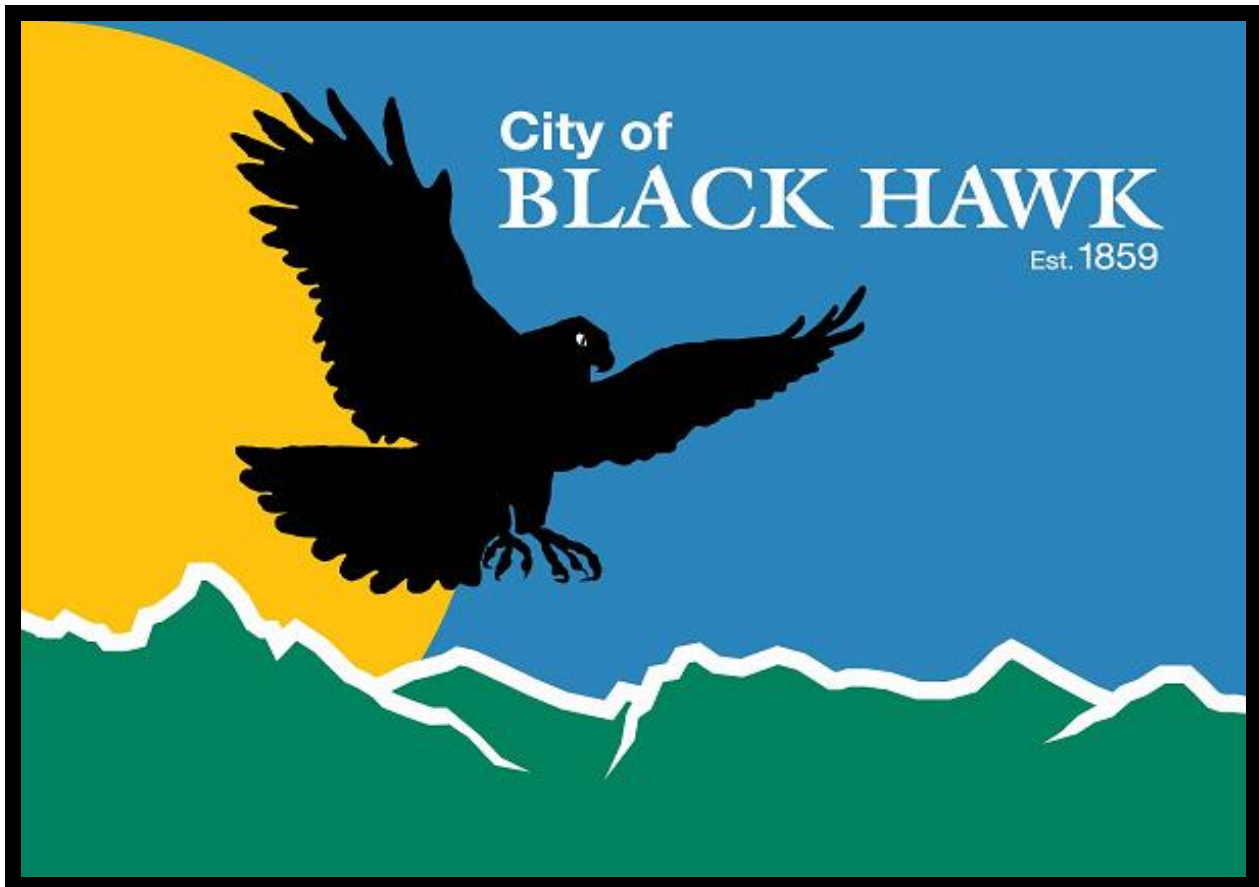


City of Black Hawk Drinking Water Consumer Confidence Report (CCR) For Calendar Year 2016

Public Water System ID: CO0124147

The City of Black Hawk Water Department is pleased to provide you with our
2016 Water Quality Report.

The purpose of this report is to inform our customers about the high quality of their drinking water and their water system. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want our customers to be informed about where your water comes from, what it contains and how it compares to stringent Federal water quality standards. The City of Black Hawks drinking water meets and exceeds the strict standards as regulated by the State of Colorado and the U.S. Environmental Protection Agency.



CONTACT INFORMATION

City of Black Hawk Web Site.....www.cityofblackhawk.org
Jason Fredricks Water Superintendent.....303-582-2246
(Email - jfredricks@cityofblackhawk.org)
Black Hawk Public Works.....303-582-1324
City of Black Hawk Main Number.....303-582-2219
Colorado Dept. of Public Health and Environment...303-692-2000
EPA's Safe Drinking Water Hotline.....1-800-426-4791
EPA's Web Site.....www.epa.gov/safewater

General Information About Drinking Water

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

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. 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 storm water 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 storm water runoff, and residential uses.
- **Radioactive contaminants**, that can be naturally occurring or be the result of oil and gas production and mining activities.
- **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 storm water runoff, and septic systems.

Detected Contaminants

The City of Black Hawk routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2016 unless otherwise noted. The State of Colorado 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. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the following sections of this report.

Note: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section, that means that the City of Black Hawk did not detect any contaminants in the last round of monitoring.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. 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. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

Lead and Copper Sampled in the Distribution System								
Analyte Name	Monitoring Period	90th Percentile	Number of Samples	Unit of Measure	Action Level	Sample Sites Above Action Level	AL or TT Violation?	Typical Sources
COPPER	06/02/2016 to 06/16/2016	0.25	20	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
LEAD	06/02/2016 to 06/16/2016	0.5	20	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Inorganic Contaminants Sampled at the Entry Point to the Distribution System									
Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources
Antimony	2012	1	0 to 2	2	ppb	6	6	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
BARIUM	2012	0.03	0.03 - 0.03	2	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
FLUORIDE	2012	0.21	0 - 0.42	2	ppm	4	4	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
NITRATE	2016	0.38	0.36 – 0.39	2	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
NITRATE	2016	0.39	0.39-0.39	1	Ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

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

Contaminant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chlorine	December, 2016	<u>Lowest period</u> percentage of samples meeting TT requirement: 100%	0	15	No	4.0 ppm

Disinfection By Products (TTHMs, HAA5, and Chlorite) Sampled in the Distribution System

Analyte Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	MCL	MCLG	MCL Violation?	Typical Sources
TOTAL HALOACETIC ACIDS (HAA5)	2016	20.06	8.8-40.3	12	ppb	60	N/A	No	Byproduct of drinking water disinfection.
TTHM	2016	46.58	26.1-70.4	12	ppb	80	N/A	No	Byproduct of drinking water disinfection.
Chlorite	2016	0.05	0-0.24	36	ppb	1.0	0.80	No	Byproduct of drinking water disinfection with Chlorine Dioxide.

Turbidity Sampled at the Entry Point to the Distribution System

Analyte Name	Sample Date	Level Found	TT Requirement	TT Violation?	Typical Sources
TURBIDITY	Date: November, 2016	Highest single measurement: 0.182 NTU	Maximum 1 NTU for any single measurement	No	Soil Runoff
TURBIDITY	Month: December, 2016	Lowest monthly percentage of samples meeting TT requirement for our technology: 100%	In any month, at least 95% of samples must be less than 0.3 NTU	No	Soil Runoff

Disinfectants Sampled at the Entry Point to the Distribution System

Contaminant Name	Year	Number of Samples Above or Below Level	Sample Size	TT/MRDL Requirement	TT/MRDL Violation	Typical Sources
Chlorine/Chloramine	2016	0	4305	TT=No more than 4 hours with a sample below 0.8 MG/L	No	Water additive used to control microbes
Chlorine Dioxide	2016	0	109	MRDL=800 ppb	No	Water additive used to control microbes

Total Organic Carbon (Disinfection Byproducts Precursor) Percentage Removal Ratio of Raw & Finished Water

Analyte Name	Year	Average of Individual Ratio Samples	Range of Individual Ratio Samples (Lowest - Highest)	Number of Ratio Samples	Unit of Measure	TT Minimum Ratio	TT Violation?	Typical Sources
TOTAL ORGANIC CARBON	2016	1	1 - 1	4	Ratio	1.00	No	Naturally present in the environment.



Cryptosporidium and Raw Source Water E. Coli

Contaminant Name	Year	Number of Positives	Sample Size
E. Coli	2016	3	6

Unregulated * or Secondary Contaminants**

Contaminant Name	Year	Average of Individual Samples	Range of Individual Samples (Lowest - Highest)	Number of Samples	Unit of Measure	Secondary Standard/MCL
SODIUM	2012	9.85	9.8-9.9	2	ppm	N/A
Hexavalent Chromium	2013	0.12	0.044-0.168	4	ppb	N/A
Molybdenum	2013	2.1	1.117-2.455	4	ppb	N/A
Chromium	2013	0.24	<0.2-0.236	4	ppb	N/A
Strontium	2013	125	99-249	4	ppb	N/A
Vanadium	2013	0.28	0.206-0.345	4	ppb	N/A

*UCMR-3 requires systems to monitor 30 unregulated contaminants. This monitoring provides a basis for future regulatory actions to protect public health. For more information please refer to the contact information listed below. **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.

The City of Black Hawk participated in the U.S. Environmental Protection Agency’s (EPA) third round of the Unregulated Contaminant Monitoring Rule (UCMR). Approximately 6,000 utilities nationwide will monitor unregulated contaminants for 1 year to help the EPA determine the occurrence of these contaminants in drinking water and whether or not they need to be regulated for protection of public health. The EPA currently regulates 90 contaminants in drinking water. The 1996 Safe Drinking Water Act amendments require that once every 5 years the EPA issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems. The EPA requires utilities to report UCMR results in their annual Water Quality Reports.

As part of the UCMR3 program, the City collected treated water samples from both surface water treatment plants and the distribution system on a quarterly basis for 1 year. Five of the 21 contaminants tested were measured at detectable concentrations with results below the reference levels for all analytes. Perfluorinated compounds, synthetic organic compounds, and volatile organic compounds analyzed in the UCMR3 monitoring were not detected in our treated drinking water. The EPA has not established maximum contaminant levels (MCLs) for these unregulated contaminants in drinking water, and the human health effects of these contaminants at the levels they were found are uncertain. In the absence of MCLs and health standards, published guidance or health reference levels from the EPA are listed in the table below as a point of comparison. All concentration values listed below are stated as parts per billion (ppb).

The City is committed to protecting public health and will continue to monitor and support EPA’s research on all of these

contaminants. For more information on all the UCMR3 contaminants, visit

<http://www.drinktap.org/home/water-information/water-quality/ucmr3>.



UCMR3 CONTAMINANTS DETECTED IN DRINKING WATER SAMPLES 2013-2014

Contaminant	Laboratory Minimum Reporting Limit	Reference Concentration	Range of Concentrations Detected
Chromium (ppb)	0.2	100	< 0.2 - 0.236
Hexavalent chromium (ppb)	0.03	None Established	0.044 – 0.168
Molybdenum (ppb)	1	40	1.117 – 2.455
Strontium (ppb)	0.3	4000	99 - 249
Vanadium (ppb)	0.2	21	0.206 – 0.345

Terms and Abbreviations		
Term	Abbreviation	Definition
Maximum Contaminant Level Goal	MCLG	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.
Maximum Contaminant Level	MCL	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.
Treatment Technique	TT	A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Action Level	AL	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
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.
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.
Average of Individual Samples	No Abbreviation	The typical value. Mathematically it is the sum of values divided by the number of samples.
Range of Individual Samples	No Abbreviation	The lowest value to the highest value.
Number of Samples	No Abbreviation	The number or count of values.
Gross Alpha, Including RA, Excluding RN & U	No Abbreviation	This is the gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222 and uranium.
Microscopic Particulate Analysis	MPA	An analysis of surface water organisms and indicators in water. This analysis can be used to determine performance of a surface water treatment plant or to determine the existence of surface water influence on a ground water well.
Variance and Exemptions	V/E	Department permission not to meet an MCL or a treatment technique under certain conditions.
Parts per million = Milligrams per liter	ppm = mg/L	One part per million corresponds to one minute in two years or a single penny in \$10,000.
Parts per billion = Micrograms per liter	ppb = ug/L	One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
Parts per trillion = Nanograms per liter	ppt = nanograms/L	One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.
Parts per quadrillion = Picograms per liter	ppq = picograms/L	One part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.
Picocuries per liter	pCi/L	Picocuries per liter is a measure of the radioactivity in water.
Nephelometric Turbidity Unit	NTU	Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Not Applicable	N/A	Not Applicable
Violation	No Abbreviation	A failure to meet a Colorado Primary Drinking Water Regulation.
Formal Enforcement Action	No Abbreviation	An escalated action taken by the State (due to the number and/or severity of violations) to bring a non-compliant water system back into compliance by a certain time, with an enforceable consequence if the schedule is not met.