

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact Terrell Phillips at 303-335-4792 with any questions or for public participation opportunities that may affect water quality.

En Español

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



Water Quality Report
749 Main Street
Louisville, CO 80027



PWS ID# C00107487



Annual Drinking Water
Quality Report

General Information

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration 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. 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) or by visiting <http://water.epa.gov/drink/contaminants>.

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

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>.

Source Water Assessment and Protection (SWAP)

The Colorado Department of Public Health and Environment may have provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit www.colorado.gov/cdphe/ccr. The report is located under "Guidance: Source Water Assessment Reports". Search the table using 107487, LOUISVILLE CITY OF, or by contacting Terrell Phillips at 303-335-4792. 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. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Quality Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

| Our Water Sources | | | |
|--------------------------------------|------------|-------------|---|
| Source | Water Type | Source Type | Potential Source(s) of Contamination |
| S. Boulder Creek at Eldorado Springs | Surface | Intake | EPA Superfund Sites, 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, Other Facilities, Commercial/Industrial/Transportation, Low Intensity Residential, Urban Recreational Grasses, Row Crops, Fallow, Small Grains, Pasture / Hay, Deciduous Forest, Evergreen Forest, Mixed Forest, Septic Systems, Oil / Gas Wells, Road Miles |
| Carter Lake | Surface | Intake | |

The City of Louisville 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, 2018 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 next section of this report.

Note: Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

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

Maximum Contaminant Level (MCL) – The highest level of a contaminant allowed in drinking water.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Health-Based – A violation of either a MCL or TT

Non-Health-Based – A violation that is not a MCL or TT.

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.

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 Contaminant Level Goal (MCLG) – 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 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.

Violation (No Abbreviation) – Failure to meet a Colorado Primary Drinking Water Regulation.

Formal Enforcement Action (No Abbreviation) – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.

Variance and Exemptions (V/E) – Department permission not to meet a MCL or treatment technique under certain conditions.

Gross Alpha (No Abbreviation) – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.

Picocuries per liter (pCi/L) – Measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.

Compliance Value (No Abbreviation) – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90th Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).

Average (x-bar) – Typical value.

Range (R) – Lowest value to the highest value.

Sample Size (n) – Number or count of values (i.e. number of water samples collected).

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.

Not Applicable (N/A) – Does not apply or not available.

Level 1 Assessment – A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment – A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Disinfectants Sampled in the Distribution System

| Disinfectant (Unit) | Time Period | Results | Number of Samples Below Level | Sample Size | TT Violation | MRDL | Typical Sources |
|---------------------|----------------|--|-------------------------------|-------------|--------------|---------|---|
| Chlorine | December, 2018 | Lowest period percentage of samples meeting TT requirement: 100% | 0 | 21 | No | 4.0 ppm | Water additive used to control microbes |

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

Lead and Copper Sampled in the Distribution System

| Contaminant (Unit) | Time Period | 90th Percentile | Sample Size | 90th Percentile AL | Sample Sites Above AL | 90th Percentile AL Exceedance | Typical Sources |
|--------------------|--------------------------|-----------------|-------------|--------------------|-----------------------|-------------------------------|---|
| Copper (ppm) | 08/23/2018 to 11/26/2018 | 0.0302 | 67 | 1.3 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits. |
| Lead (ppm) | 08/23/2018 to 11/26/2018 | 0.0014 | 67 | 0.015 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits. |
| Copper (ppm) | 02/07/2018 to 05/21/2018 | 0.02 | 64 | 1.3 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits. |
| Lead (ppm) | 02/07/2018 to 05/21/2018 | 0.00 | 64 | 0.015 | 0 | No | Corrosion of household plumbing systems; Erosion of natural deposits. |

Disinfection Byproducts Sampled in the Distribution System

| Name (Unit) | Year | Average | RangeLow – High | Sample Size | MCL | MCLG | MCL Violation | Typical Sources |
|-------------------------------------|------|---------|-----------------|-------------|-----|------|---------------|--|
| Chlorite (ppm) | 2018 | 0.26 | 0.22 to 0.3 | 12 | 1 | 0.8 | No | Byproduct of drinking water disinfection |
| Total Haloacetic Acids (HAA5) (ppb) | 2018 | 21.58 | 11.5 to 27.8 | 16 | 60 | N/A | No | Byproduct of drinking water disinfection |
| Total Trihalomethanes (TTHM) (ppb) | 2018 | 46.13 | 24 to 63.1 | 16 | 80 | N/A | No | Byproduct of drinking water disinfection |

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

| Contaminant (Unit) | Year | Average | RangeLow – High | Sample Size | Unit of Measure | TT Minimum Ratio | TT Violation | Typical Sources |
|----------------------------|------|---------|-----------------|-------------|-----------------|------------------|--------------|--------------------------------------|
| Total Organic Carbon Ratio | 2018 | 1.29 | 1.05 to 1.52 | 7 | Ratio | 1 | No | Naturally present in the environment |

*If minimum ratio not met and no violation identified then the system achieved compliance using alternative criteria.

Summary of Turbidity Sampled at the Entry Point to the Distribution System

| Contaminant | Sample Date | Level Found | TT Requirement | TT Violation | Typical Sources |
|-------------|-------------|---|---|--------------|-----------------|
| Turbidity | Oct | Highest single measurement: 0.128 NTU | Maximum 1 NTU for any single measurement | No | Soil Runoff |
| Turbidity | Dec | 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 |

Radionuclides Sampled at the Entry Point to the Distribution System

| Contaminant (Unit) | Year | Average | Range Low – High | Sample Size | MCL | MCLG | MCL Violation | Typical Sources |
|-------------------------|------|---------|------------------|-------------|-----|------|---------------|-----------------------------|
| Gross Alpha (pCi/L) | 2017 | 0.35 | 0.3 to 0.4 | 2 | 15 | 0 | No | Erosion of natural deposits |
| Combined Radium (pCi/L) | 2017 | 0.8 | 0.6 to 1 | 2 | 5 | 0 | No | Erosion of natural deposits |

Inorganic Contaminants Sampled at the Entry Point to the Distribution System

| Contaminant (Unit) | Year | Average | Range Low – High | Sample Size | MCL | MCLG | MCL Violation | Typical Sources |
|--------------------|------|---------|------------------|-------------|-----|------|---------------|---|
| Barium (ppm) | 2018 | 0.03 | 0.02 to 0.03 | 2 | 2 | 2 | No | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Fluoride (ppm) | 2018 | 0.63 | 0.47 to 0.74 | 9 | 4 | 4 | No | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |

Disinfectants Sampled at the Entry Point to the Distribution System

| Contaminant | Year | Number of Samples Above or Below Level | Sample Size | TT/MRDL Requirement | TT/MRDL Violation | Typical Sources |
|---------------------|------|--|-------------|---|-------------------|---|
| Chlorine/Chloramine | 2018 | 0 | 3162 | TT = No more than 4 hours with a sample below 0.2 ppm | No | Water additive used to control microbes |
| Chlorine Dioxide | 2018 | 0 | 399 | MRDL = 800 ppb | No | Water additive used to control microbes |

Secondary Contaminants

| Contaminant | Year | Average | Range Low – High | Sample Size | Secondary Standard |
|--------------|------|---------|------------------|-------------|--------------------|
| Sodium (ppm) | 2018 | 9.65 | 7 to 12.3 | 2 | N/A |

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 has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Unregulated Contaminant Monitoring Rule (UCMR). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR sampling and the corresponding analytical results are provided below

Unregulated Contaminants***

| Contaminant (Unit) | Year | Average | Range Low – High | Sample Size |
|--------------------|------|---------|------------------|-------------|
| Manganese (ppb) | 2018 | 0.0435 | 0 - 0.435 | 1 |
| HAA5 (ppb) | 2018 | 25.1 | 23.3 - 31.2 | 6 |
| HAABr (ppb) | 2018 | 2.9 | 2.7 - 3.3 | 6 |
| HAA9 (ppb) | 2018 | 28 | 26 - 34.5 | 6 |

***More information about the contaminants that were included in UCMR monitoring can be found at: <https://drinktap.org/Water-Info/Whats-in-My-Water/Unregulated-Contaminant-Monitoring-Rule-UCMR>. Learn more about the EPA UCMR at: <http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule> or contact the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/contact.cfm>.

Cryptosporidium and Raw Source Water E. coli

| Contaminant | Year | Number of Positives | Sample Size |
|-------------|------|---------------------|-------------|
| E. Coli | 2018 | 4 | 18 |

Violations, Significant Deficiencies, Backflow/Cross-Connection, and Formal Enforcement Actions

| Name | Category | Time Period | Health Effects | Compliance Value | TT Level or MCL |
|-----------------------|---|-------------------------|----------------|------------------|-----------------|
| Long Term 2 / E. Coli | Failure to Monitor and/or Report - Non-Health-Based | 04/01/2018 - 04/30/2018 | N/A | N/A | N/A |

Additional Violation Information

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.
Explanation of the violation(s), the steps taken to resolve them, and the anticipated resolved date:

The City did not complete Long Term 2 sampling (LT2) for the month of April on time. LT2 tests analyze raw untreated surface source water for cryptosporidium, giardia, E. coli, and coliform. The required sampling was completed 1 day after the deadline. The results are used by CDPHE to benchmark water sources around the city and do not reflect the levels of finished treated water. The test results are as follows: SCWTP: Giardia <0.909 mL/100L, Cryptosporidium <0.909 mL/100L, E. coli coliform <1 MPN/100ml, Coliform bacteria 25.9 MPN/100 ml HBWTP: Giardia <0.909 mL/100L, Cryptosporidium <0.909 mL/100L, E. coli coliform <1 MPN/100ml Coliform bacteria 14.8 MPN/ 100 ml Citizens were not exposed to any health risk as a result of the delayed testing. City Staff has reviewed all annual testing requirements and prepared a schedule to ensure these samples are completed on time in the future.