

CITY OF CARBONDALE – WATER QUALITY REPORT - 2019

The City of Carbondale is proud of its excellent finished water quality and we are committed to providing you with information about your water supply. This report summarizes the quality of water we provided last year, including details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. The City is pleased to report the water delivered to your home or business complied with, or was better than, all state and federal drinking water requirements.

Este informe contiene informacion muy importante sobre el agua que usted bebe. Traduzcalo o hable con alguien que lo entienda bien.

Source Water Information

The City of Carbondale obtains raw water from two source lakes. Cedar Lake is a nearly-pristine lake providing excellent quality raw water as the primary source. It was completed by the City in 1975. The City Reservoir, originally built in 1926, serves as a backup water supply. Water from both lakes is treated with an award winning, state-of-the-art Water Treatment Plant completed in 1994. This high tech facility incorporates some of the latest treatment techniques and processes designed to reduce any substances to levels well below any health concern to serve the City of Carbondale and surrounding communities.

Source Water Assessment Summary Available Upon Request

Illinois EPA considers all surface water sources of public water supply susceptible to potential pollution problems. Hence the reason for mandatory treatment of all public water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration and disinfection. Primary sources of pollution in Illinois lakes can include agricultural runoff, land disposal (septic systems) and shoreline erosion.

Important Health Information

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline. (1-800-426-4791).

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 from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline. (1-800-426-4791).

Lead

The City of Carbondale has been issued reduced Lead and Copper Monitoring due to favorable monitoring history, specific high-tech treatment processes, regular sampling and quality laboratory testing. The levels of these contaminants are consistently well below regulated limits. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Carbondale is responsible for providing high quality drinking water and there are no lead supply lines in the City, but we cannot control the variety of materials used in home plumbing components. 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. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Substances Expected to be in Source Water

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 can dissolve naturally occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Microbial contaminants such as viruses and bacteria, which 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 run off, industrial or domestic waste water discharges, oils and gas production, mining or farming;

Pesticides and herbicides which may come from a variety of sources such as agriculture, urban storm water run off and residential uses;

Organic chemical contaminants including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water run off and septic systems;

Radioactive contaminants which may be naturally occurring or be the result of oil and gas products and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population.

Questions?

If you have questions about this report, please contact Tony Harrison, Water Operations Manager at tharrison@explorecarbondale.com or 618-457-3240, Ext. 2. If you would like to learn more, please feel welcome to call or attend a City Council meeting held each month at City Hall.

How to Read the Data Tables

The City of Carbondale conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our 2018 monitoring are reported in the following data tables. For help interpreting this table, see the "Abbreviations" section and footnotes.

Definitions and Abbreviations:

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 Contaminant Level (MCL) The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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.

Maximum residual disinfectant level (MRDL) The highest level of a disinfectant allowed in drinking water.

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

ppm-parts per million or milligrams per liter (mg/L)

ppb -parts per billion, or micrograms per liter (ug/L)

NTU-Nephelometric Turbidity Unit, used to measure cloudiness in drinking water

N/A-Not applicable

2018 Regulated Contaminants Detected

Lead and Copper	Date Sampled Customers' taps	MCLG	Action Level (AL)	90 th Percentile	Number of samples over Action Level	Units	Violation	Typical Source	
Copper ⁵	6/01- 9/30/2017	1.3	1.3	0.0365	0	ppm	No	Lead –Corrosion of household plumbing systems; Erosion of natural deposits Copper – Erosion of natural deposits; leaching from wood preservatives; corrosion of household plumbing systems.	
Lead ⁵	6/01- 9/30/2017	0	15.0	1.22	0	ppb	No		
Disinfectants & Disinfection By-Products		Collection Date	Highest Level Detected	Range of Levels Detected	MCLG/MCL MRDLG /MRDL	Units	Violation	Typical Source	
TTHM's (Total Trihalomethanes) ²		Quarterly 2018	25.0	18.9 – 31.7	N/A / 80	ppb	No	By-product of drinking water chlorination	
Haloacetic Acids (HAA5) ²		Quarterly 2018	34.0	20.9 – 36.9	N/A / 60	ppb	No	By-product of drinking water chlorination	
Chloramines ³		Weekly 2018	3.0	2.0 – 3.0	4.0 / 4.0	ppm	No	Water additive used to control microbes	
Coliform Bacteria ⁴		Maximum Contaminant Level Goal	Total Coliform MCL	Highest # of Positive	Fecal Coliform or E. Coli MCL	Total # of Positive E. Coli or Fecal Coliform Samples		Violation	Typical Source
Coliform		0	0	0	0	0		No	Naturally present in the environment
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Typical Source	
Fluoride ¹	10/3/2018	0.70	0.65 – 0.70	4.0	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge and aluminum factories	
Nitrate (As N)	4/19/2018	0.23	0.23– 0.23	10.0	10.0	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Barium	10/3/2018	0.022	0.022 - 0.022	2.0	2.0	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	
Synthetic Organic Contaminants including pesticides and herbicides	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Typical Source	
Simazine	2018	0.38	0 – 0.38	4.0	4.0	ppb	N	Herbicide runoff.	
Total Organic Carbon	The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set, unless a TOC violation is noted in the violations section.								
Secondary / State Regulated Contaminants		Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Typical Source
Manganese ⁷		10/3/2018	2.4	2.4 – 2.4	150	150	ppb	No	Erosion of naturally occurring deposits
Chloride ⁷		10/3/2018	8.4	8 – 8	250	250	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration
Sodium ⁶		10/3/2018	17	17 – 17	N/A	N/A	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration
Sulfate ⁷		10/3/2018	26	26 – 26	250	250	ppm	No	Erosion of naturally occurring deposits / Water treatment
Turbidity ⁸		Limit (Treatment Technique)	Level Detected			Violation		Typical Source	
Highest Single measurement		1.0 NTU	2.47 NTU			Yes		Soil run-off	
Lowest monthly % meeting limit		0.3 NTU	98%			No			

¹ Fluoride is added to the water supply to help promote oral health as required by the Illinois Department of Public Health.
² Trihalomethanes and Haloacetic Acids, also known as Disinfection by-products (DBPs) are formed by the reaction of chlorine disinfectant with naturally occurring organics found in the source water. Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.
³ Chlorine and Chloramines are disinfecting agents added to control microbes that otherwise could cause waterborne diseases. Most water systems in Illinois are required by law to add either chlorine or chloramines.
⁴ Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. If coliforms are found in more samples than allowed then it could be indication of potential problems.
⁵ Compliance with the Lead and Copper Rule is met if the 90th percentile of all samples taken does not exceed the action levels for lead or copper. The 90th percentile sample is the "amount detected" in the table. Lead and copper is required by the state to be sampled on a triennial basis and is included in the report for the current year showing the date of sampling and the detection levels.
⁶ There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.
⁷ This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.
⁸ Turbidity is a measure of the cloudiness of the water caused by suspended particles. We measure it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.
⁹ Unregulated contaminants are those for which USEPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist USEPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. A maximum contaminant level (MCL) for these substances has not been established by either state or federal regulations, nor has mandatory health effects language.

VIOLATIONS TABLE

Interim Enhanced SWTR			
The Interim Enhanced Surface Water Treatment Rule improves control of microbial contaminants, particularly Cryptosporidium, in systems using surface water, or ground water under the direct influence of surface water. The rule builds upon the treatment technique requirements of the Surface Water Treatment Rule.			
Violation Type	Violation Begin	Violation End	Violation Explanation
SINGLE COMB FLTR EFFUENT (IESWTR/LT1)	6/1/2018	6/30/2018	One turbidity measurement exceeded a standard for the month indicated. Turbidity (cloudiness) levels are used to measure effective filtration of drinking water.

Violation Summary and Corrective Actions

The turbidity violation resulted from a mineral reaction in which manganese was oxidized by chlorine. Chlorine had been used to disinfect newly rehabilitated filters at the water treatment plant. Some of this highly-chlorinated water mixed with drinking water and entered the City's water system. The violation was not caused by poor filtration. The turbidity levels returned to normal within 24 hours. Samples were collected throughout the City to ensure the safety of the drinking water, and a Drinking Water Alert containing all of the details of the event was issued directly to all residents. The IEPA determined that the water was safe to drink at all times, and did not require the City to issue a boil order.