



WATER DEPARTMENT 2019 DRINKING WATER CONSUMER CONFIDENCE REPORT (CCR)

INTRODUCTION

The City of Cambridge Public Water System is pleased to provide you with the 2019 Consumer Confidence Report (CCR). Within this report there is information for you, the consumer, on the quality of your drinking water. Included is the source of your water, special precaution needs, water system violations, sources of water contaminant, contaminants test results and their associated maximum contaminant level (MCL) that the EPA considers safe, how to participate in decisions concerning your drinking water and water system contacts. The goal of for the Cambridge Water Department is to ensure any contaminants found in your drinking water are below the level at which there is no known health risk.

SOURCE WATER INFORMATION

The City of Cambridge Public Water System uses surface water from a reservoir that is filled with water drawn from Wills Creek. For the purposes of source water assessments, in Ohio all surface waters are susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens which may rapidly arrive at public drinking water intakes with little warning or time to prepare. The City of Cambridge public water system treats the water to meet drinking water quality standards, but no single treatment technique can address all potential contaminants. The source water assessment report can be viewed at

<http://wwwapp.epa.ohio.gov/gis/swpa/OH3000111.pdf>.

SOURCES OF CONTAMINATION

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:

(A) **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

NOTE: PER 4933.19 ORC, TAMPERING WITH OR BYPASSING A METER CONSTITUTES THEFT WITH CRIMINAL SANCTIONS.

(B) **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.

(C) **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) **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 runoff, and septic systems.

(E) **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink,

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the number 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.

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 Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

SPECIAL PRECAUTION NEEDS

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

ABOUT YOUR DRINKING WATER

The EPA requires regular sampling to ensure drinking water safety. The City of Cambridge Public Water System conducted sampling for Inorganic; Nitrate; Synthetic Organic; Volatile Organic; Total Organic; Total Microsystins; Cyanobacteria; Total Coliform; Total Chlorine and Disinfection Byproducts during 2019. There were 367 samples collected for a total of 45 different contaminants most of which were not detected in the Cambridge Water Department. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, are more than one year old.

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MONITORING & REPORTING VIOLATIONS & ENFORCEMENT ACTIONS

The City of Cambridge Public Water System was found to be in violation of Ohio Administrative Code Rule 3745-81-23 for failing to monitor for **Nitrate** in the drinking water between May 1 and May 31, 2019. While a sample was drawn on April 30th showing Nitrate as non-detect within the drinking water, this sample did not meet the requirements set forth for **Nitrate** monitoring in the drinking water. The City of Cambridge Public Water System has adjusted to ensure that the monthly testing does not have this oversight in the future and all monthly tests since have been performed in accordance with EPA Regulations. You will see in the table below that Nitrate has an MCL of 10 ppm and the City of Cambridge Public Water System had a max detection of 0.495ppm for the 2019 year.

TABLE OF DETECTION CONTAMINENTS

Listed below is information on those contaminants that were found in the City of Cambridge Public Water System.

INORGANIC CONTAMINANTS (LEAD & COPPER TESTED EVERY 3 YRS & CUSTOMER TAPS)							
CONTAMINANT	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	VIOLATION	SAMPLE YEAR	TYPICAL SOURCE OF CONTAMINATION
LEAD (ppb)	AL = 15	0	0	N/A	NO	2018	Corrosion of household plumbing; erosion of natural deposits.
	Zero out of thirty samples were found to have lead in excess of the Action Level of 15 ppb.						
COPPER (ppb)	AL = 1,350	0	25	N/A	NO	2018	Corrosion of household plumbing; erosion of natural deposits; leaching from wood preservatives.
	Zero out of thirty samples were found to have copper levels in excess of the Action Level of 1,300 pph.						
FLUORIDE (ppm)	4	4	1.09	0.85 - 1.28	NO	2019	Erosion of natural deposits, water additive which promotes strong teeth.
NITRATE (ppm)	10	10	0.495	0 - 0.5	NO	2019	Runoff from fertilizer use; erosion of natural deposits.es strong teeth.
BARIUM (ppb)	2000	2000	31	N/A	NO	2019	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
MERCURY (ppb)	100	100	3.66	N/A	NO	2019	Erosion of natural deposits; discharge from refineries and factories; Runoff from landfills; Runoff from crop land
CHROMIUM (ppb)	100	100	1.28	N/A	NO	2019	Discharge from steel and pulp mills; Erosion of natural deposits

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DISINFECTION BYPRODUCTS									
ANALYTE	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION			VIOLATION	SAMPLE YEAR	TYPICAL SOURCE OF CONTAMINATION
TOTAL TRIHALOMETHANES TTHMs (ppb)	N/A	80	64.7	36.2	-	79.5	NO	2019	By-products of drinking water chlorination.
HALOACETIC ACIDS HAA5 (ppb)	N/A	60	34.2	10.4	-	34.3	NO	2019	By-products of drinking water chlorination.

RESIDUAL DISINFECTANTS							
ANALYTE	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	VIOLATION	SAMPLE YEAR	TYPICAL SOURCE OF CONTAMINATION
Total Chlorine (ppm)	MRDLG 4	MRDL 4	1.38	1.07 - 1.57	NO	2019	Water additive used to control microbes.

MICROBIOLOGICAL CONTAMINANTS							
ANALYTE	MCL	MCLG	LEVEL FOUND	RANGE OF DETECTION	VIOLATION	SAMPLE YEAR	TYPICAL SOURCE OF CONTAMINATION
Turbidity (NTU)	TT=95% of SAMPLES ≤ 0.30	NA	0.12	0.02 - 0.12	NO	2019	Soil Runoff
Turbidity (% samples meeting standard)	TT	NA	100%	100%	NO	2019	Soil Runoff
Total Organic Carbon	TT	NA	1.4	1.27 - 2.59	NO	2019	Naturally present in the environment.

UNREGULATED CONTAMINANTS							
NICKEL (ppm)	N/A	N/A	0.004	ND - 0.004	NO	2019	leaching from metal alloys in contact with drinking-water

TURBIDITY

Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.30 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above, the City of Cambridge Public Water Supply's highest recorded turbidity result for 2019 was 0.12 NTU and the lowest monthly percentage of samples meeting the turbidity limits was 100%.

TOTAL ORGANIC CARBON (TOC)

The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percent of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.

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NICKEL LIFETIME HEALTH ADVISORY

While there is no MCL for nickel, there is a lifetime health advisory level of 1 ppm. The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for a lifetime of exposure, incorporating a drinking water RSC factor of contaminant-specific data or a default of 20% of total exposure from all sources. The Lifetime HA is based on exposure of a 70-kg adult consuming 2 liters of water per day.

TREATMENT TECHNIQUE (TT) VIOLATIONS

The City of Cambridge Public Water System was found to be in violation of Ohio Administrative Code Rule 3745-81-72 for failing to provide **sufficient disinfection treatment** in the drinking water on June 10, 2019, for a length of 4.1 hours. This occurs when the actual contact time (CT) value during maximum hourly flow rate does not meet or exceed the required minimum CT value. In order to ensure proper disinfection, water must be in contact with chlorine or similar disinfectant for a minimum amount of time.

What does this mean for you?

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

What happened?

This violation is in direct correlation to an abrupt failure to the City of Cambridge Public Water System's Chlorination System. Once the system failure was detected, staff worked diligently to get the system back up and running to minimize the length of time the system was down.

What was done?

While testing the distribution system water for Total Chlorine doesn't negate the violation, The City of Cambridge Water Supply collected and tested the distribution system water. This testing allowed the City of Cambridge Water Supply to better understand the severity the Chlorination System failure had on the distribution system water. None of those samples tested fell below the required chlorine residual required by the EPA. Measures have been taken to prevent such a failure have happening in the future.

LEAD EDUCATIONAL INFORMATION

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 Cambridge Public Water System is responsible for providing high quality drinking water but cannot control the variety of materials used in 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, & steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.




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REVISED TOTAL COLIFORM RULE (RTCR) INFORMATION

All water systems were required to begin compliance with a new rule, the Revised Total Coliform Rule, on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of total coliform bacteria, which includes E. coli bacteria. The U.S. EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any significant deficiencies exist. If found, these must be corrected by the PWS.

The City of Cambridge Public Water Supply is please to share we had zero positive total coliform results on the 120 samples taken for 2019.

LICENSE TO OPERATE



Division of Drinking and Ground Waters 

In 2019, The City of Cambridge Water Public Water Supply had an unconditional license to operate our public water system.

HOW DO I PARTICIPATE IN DECISIONS CONCERNING MY DRINKING WATER?

We want our valued customers to be informed about their water utility. If you want to learn more, please attend our regularly scheduled meetings of Cambridge City Council. These meetings are held the second and fourth Mondays of each month at 7:00 p.m. at City Hall.

We are pleased to report that our drinking water is safe and meets federal and state requirements. For more information on your drinking water please contact Tom McVicker, Water Plant Superintendent or Brian Starr, Chief Operator IV at (740) 439-2130 or Lou Thornton at (740) 432-3601.

Utility Office:	Engineer Office:	Water Treatment Plant:
Phone: 740-432-5453	Phone: 740-432-3601	Phone: 740-439-2130
Fax: 740-439-7365	Fax: 740-439-9867	Fax: 740-432-8700
Hours: 8 am to 4:30 pm M-F	Hours: 7:30:00 AM to 4 pm M-F	Hours: 24/7

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FREQUENTLY ASKED QUESTIONS

QUESTION: Why is the fire hydrant running?

ANSWER: Flushing hydrants can be done to not only test the fire flow capacity in the event of a fire, but also to remove sediment and rust from the water, to release air in the lines after maintenance, or to maintain proper chlorine concentrations in your area. ... Hydrants are flushed to keep water moving and keep pipes from stagnating in this case.

QUESTION: I reported a break an hour ago and there is no one digging yet, why not?

ANSWER: We have to have responses from member utilities for the Ohio Utilities Protection Service (OUPS) underground utilities locators before we dig. Sometimes this can take an hour or two. Locators commonly commute from Columbus, Chillicothe or Lancaster. Once the gas, electric and communications lines have been located we can safely begin digging.

QUESTION: What is the hardness of the water in grains per gallon?

ANSWER: The City of Cambridge Public Water Supply's average water hardness in 2019 was 317 mg/L which equals 18.5 grains per gallon. (1 gpg = 17.12 mg/L)

QUESTION: I need to purchase bulk water to fill a pool or I know someone who has a well and needs to haul water to supplement the well. Can I purchase bulk water from the Cambridge Water Department?

ANSWER: Yes. The Cambridge Water Department has a self serve bulk water vending station located on Oxford Avenue. For information on obtaining a vending card, please contact the Utilities Office at 740-432-5453.

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BOIL ORDER INFORMATION

The Ohio EPA recommends public water suppliers to issue a boil order any time the pressure in the water distribution system falls below 20 psi (pounds of pressure per square inch). Water main breaks, hydrant flushing, structure fires, and normal operational maintenance in the distribution system can cause low-pressure or no pressure events. Boil orders are issued for these areas of the water distribution system where these events have taken place.

QUESTION: What is a Boil Order?

ANSWER: A boil order is a precautionary measure taken when the distribution system pressure drops below 20 psi in the water distribution system. This test allows a 24 hour laboratory test to confirm the water quality is safe and was not affected by the depressurization event.

QUESTION: Who issues a Boil Order?

ANSWER: The Water Distribution Maintenance Department issues boil orders through the water treatment plant.

QUESTION: What do I do when a Boil Order is issued?

ANSWER: All water used for human consumption should be boiled at a rolling boil for 2-3 mins and then cooled prior to consumption. You should also discard icemaker ice.

QUESTION: How do I know when a Boil Order has been issued?

ANSWER: When boil orders are issued they are advertised on the local radio stations and in the local newspaper. Additionally, you can call the water treatment plant at 740-439-2130 or the utilities office at 740-432-5453 to see if a boil order has been issued for your neighborhood.

QUESTION: How long will I be under a boil order?

ANSWER: Most Boil Orders last 24-48 hrs as it takes 24hrs to receive results from the Lab once a sample has been collected and sent for testing.

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DEFINITION TABLE

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 contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
Maximum Residual Disinfectant Level (MRDL)	The highest residual disinfectant level allowed
Maximum Residual Disinfectant Level Goal (MRDLG)	The level of residual disinfectant below which there is no known or expected risk to health.
Parts per Million (ppm) or Milligrams per Liter (mg/l)	units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
Parts per Billion (ppb) or Micrograms per Liter (ug/l)	are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.
The symbol "<"	A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected
NA	Not applicable
Contact Time (CT)	means the mathematical product of a "residual disinfectant concentration: (C), which is determined before or at the first customer, and the corresponding "disinfectant contact time" (T).
Microcystins	Liver toxins produced by a number of cyanobacteria. Total Microcystins are the sum of all the variants/congeners (forms) of the cyanotoxin microcystin.
Cyanobacteria	Photosynthesizing bacteria, also called blue-green algae, which naturally occur in marine and freshwater ecosystems, and may produce cyanotoxins, which at sufficiently high concentrations can pose a risk to public health.
Cyanotoxin	Toxin produced by cyanobacteria. These toxins include liver toxins, nerve toxins, and skin toxins. Also sometimes referred to as "algal toxin".
NTU	Nephelometric Turbidity Unit (a measure of particles held in suspension in water.)

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