

2023 ANNUAL DRINKING WATER QUALITY REPORT

CITY OF BURLINGTON – PUBLIC WATER SYSTEM ID# 02-01-010

The City of Burlington is pleased to present you with the 2023 annual Drinking Water Quality Report, also known as the Consumer Confidence Report (CCR). This report provides our customers with a snapshot of 2023 water quality. This report includes details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. During the calendar year 2023, The City of Burlington delivered an average of 11.744 million gallons of water per day through approximately 441.39 miles of water lines. The maximum day was on Thursday, April 20 when over 17.147million gallons of water was pumped into the distribution system. The City's goal is to provide our citizens with an uninterrupted supply of safe and high-quality drinking water. We want you to understand the effort we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information. If you have any questions about this report or concerning your water, please contact the Water Resources Department at (336) 222-5133. The Burlington City Council meets on the first and third Tuesday of each month. You may also log on to EPA's website at <http://www.epa.gov/ccr> for general CCR information.

WHAT EPA WANTS YOU TO KNOW

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 (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 transplant, 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. 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 (800-426-4791).

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 Burlington 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, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

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, 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 stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which 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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and 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, EPA prescribes regulations which limit the amount of certain contaminants in water provided by water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

SOURCE WATER ASSESSMENT PROGRAM RESULTS

The City of Burlington utilizes two (2) surface water supply sources. Lake Mackintosh is located in southwest Alamance County and southeast Guilford County. It supplies the J.D. Mackintosh, Jr. Water Treatment Plant (JDMWTP) located in southwest Alamance County. Stoney Creek Reservoir is located near the Hopedale Community. It supplies the Ed Thomas Water Treatment Plant (ETWTP) located in downtown Burlington.

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply Section, Source Water Assessment Program (SWAP) conducted assessment for all drinking water sources across North Carolina. The purpose of these assessments was to determine the susceptibility of each drinking water source (well or surface intake) to Potential Contamination Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate, or Lower.

The relative susceptibility rating of each source for the City of Burlington was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the watershed and its delineated assessment area). The assessment findings are summarized in the table below.

Susceptibility of Sources to potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Lake Mackintosh	Higher	September 2020
Stoney Creek Reservoir	Moderate	September 2020

The complete SWAP Assessment report for the City of Burlington program may be viewed on the web at <https://ncwater.org/?page=600>. Note that because the SWAP results and reports are periodically updated by the Public Water Supply (PWS) Section, the results available on this website may differ from the results that were available at the time this CCR was prepared. If you are unable to access the SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail service Center, Raleigh, NC 27699-1634, or email requests to swap@de1.nc.gov. Please indicate the system name, number and provide your name, mailing address and phone number. If you have any questions about the SWAP report, please contact the Source Water Assessment staff by phone at (919) 707-9098.

It is important to understand that a susceptibility of “higher” does not imply poor water quality, only the system’s potential to become contaminated by PCSs in the assessment area.

DEFINITIONS & ABBREVIATIONS

AL	ACTION LEVEL: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.	ng/L	NANOGRAM PER LITER: A measure of mass per unit volume to express the concentration of a solution, also referred to as “parts per trillion” – often abbreviated as ppt.
MCLG	MAXIMUM CONTAMINANT LEVEL GOAL: 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.	MFL	MILLION FIBERS PER LITER: A measure of the amount of asbestos per unit volume.
MCL	MAXIMUM CONTAMINANT LEVEL: The highest level of a contaminant allowed in drinking water. MCLs are set as close the MCLGs as feasible using the best available treatment technology.	NTU	NEPHELOMETRIC TURBIDITY UNIT: A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
µg/L	MICROGRAM PER LITER: A measure of mass per unit volume to express the concentration of a solution, also referred to as “parts per billion” – often abbreviated as ppb.	SMCL	SECONDARY MAXIMUM CONTAMINANT LEVEL: The highest concentration of a contaminant based on apparent quality such as color, odor, or taste, but does not imply any known health effects.
mg/L	MILLIGRAM PER LITER: A measure of mass per unit volume to express the concentration of a solution, also referred to as “parts per million” – often abbreviated as ppm.	TT	TREATMENT TECHNIQUE: A required process intended to reduce the level of a contaminant in drinking water.
pCi/L	PICOCURIES PER LITER: A measure of radioactive intensity per unit volume.	ND	NOT DETECTED: This term is used when the concentration of a substance is too low to be detected by standard lab tests.
<	LESS THAN: Analyte concentration is less than the reporting limit.	HA	HEALTH ADVISORY: An estimate of acceptable drinking water levels for a chemical substance based on health effects information; an HA is not a legally enforceable Federal standard, but serves as technical guidance to assist Federal, State, and local officials.
NA	NOT APPLICABLE: Information does not apply to this parameter.	MRDL	MAXIMUM RESIDUAL DISINFECTANT LEVEL: The highest level of a disinfectant allowed in drinking water without causing an unacceptable possibility of adverse health effects.

JUST HOW MUCH ARE ONE PART PER MILLION, ONE PART PER BILLION, ONE PART PER TRILLION?

The concentrations of substances measured in drinking water are usually expressed as parts per million (ppm), parts per billions (ppb) or even parts per trillion (ppt). It is often difficult to grasp just how large a million, a billion or a trillion really is. We have included some examples to provide perspective on how large numbers like 1 million, 1 billion and 1 trillion are.

- Part Per Million (ppm) or milligram per liter (mg/L) – One part per million corresponds to 1 one minute in two years or a penny in \$10,000
- Part Per Billion (ppb) or microgram per liter (µg/L) – One part per billion corresponds to 1 one minute in 2,000 years or a single penny in \$10,000,000
- Part Per Trillion (ppt) or nanograms per liter (ng/L) – One part per Trillion corresponds to 1 one minute in 2,000,000 years or a single penny in \$10,000,000,000,000.

VIOLATIONS THAT YOUR WATER SYSTEM RECEIVED FOR THE REPORT YEAR

The City of Burlington is required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. **The City of Burlington had no violations of Drinking Water standards in 2023.**

There are 3 types of possible violations:

1. **“Monitoring Violation”** means that water was not tested within the appropriate timeframe.
2. **“Reporting Violation”** means that the samples were analyzed, but the results were either not reported or reported incorrectly.
3. **“E. coli MCL Violation”** occurs when any public water system has:
 - a. A total coliform-positive routine sample result followed by an E. coli-positive repeat sample result;
 - b. An E. coli-positive routine sample result followed by an E. coli-positive repeat sample result;
 - c. An E. coli-positive routine sample result followed by a total coliform-positive repeat sample result;
 - d. An E. coli-positive routine sample result and fails to take all required repeat samples; or
 - e. A total coliform-positive routine sample result and fails to test for E. coli.

Chloramines

In July of 2011, the City of Burlington made the transition from FREE CHLORINE as a secondary disinfectant to a combined form of chlorine called CHLORAMINES. This was a highly publicized event. This change resulted in better maintained chlorine residual in the city’s distribution system, fewer taste and odor complaints and lower Disinfection By-Product (DBP) formation. There is a difference in the regulatory requirements for Chloramine versus Free Chlorine. The minimum allowable concentration of **free chlorine** is 0.2 mg/L. The minimum allowable concentration for **chloramines** is 1.0 mg/L. The maximum residual disinfectant level for both free chlorine and chloramine is 4.0 mg/L. The City of Burlington uses free chlorine as a primary disinfectant (at the plant) and chloramines as a secondary disinfectant (in the distribution system) to control microbial growth.

Inorganic Compounds

The USEPA has set standards for a number of inorganic chemicals that can affect our health. Inorganic contaminants in source water such as salts and metals, can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Parameter	MCLG	Federal MCL	JDMWTP	ETWTP	Range	Major Sources in Drinking Water
Barium (mg/L)	2	2	< 0.4	< 0.4	NA	Erosion of natural deposits; Discharge from metal refineries
Fluoride #	2	4	0.80	0.70	0.6 - 1.0	Added to water to promote strong teeth
Nitrate (mg/L)	10	10	< 1.0	< 1.0	NA	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits.
Cyanide (ug/L)	200	200	< 200	< 200	< 200	Discharge from steel, plastic and / or fertilizer factories
Free Chlorine* (mg/L)	NA	NA	Free chlorine concentration did not exceed MRDL of 4.0 mg/L			Water additive used to control microbes
Chloramine (mg/L)	NA	NA	Chloramine concentration did not exceed MRDL of 4.0 mg/L			Water additive used to control microbes

*Chlorine is used as a disinfectant in drinking water. The minimum acceptable free chlorine residual is 0.2 mg/L. The maximum allowable chlorine residual has been set at 4.0 mg/L. Chlorine is measured at several points in the treatment process. **The residuals reported in this table are Point-of-Entry samples, where the water is pumped into the distribution system.** The chlorine residual in the City of Burlington distribution system will fluctuate depending on the season of the year, location in the system, time of day or even which water plant is in operation at any given time.

#The respective concentrations of fluoride reported in the above table are results from a single sample collected on 5/31/2023. Also, the average fluoride concentrations from analyses performed at the treatment plants every 4 hours for process control purposes were 0.71 mg/L and 0.70 mg/L for JDMWTP and ETWTP respectively in 2023.

Organic Compounds

There are a number of organic compounds that are of potential concern in drinking water. This group includes Volatile Organic Compounds (VOC’s), which vaporize easily, and Synthetic Organic Compounds (SOC’s), which are manmade, such as some pesticides and herbicides. These contaminants may come from sources like agriculture, urban stormwater runoff, residential uses, industrial processes and petroleum production, gas stations, and septic systems. Trihalomethanes and Haloacetic acids are disinfection byproducts that are formed when organic compounds that are in water react with chlorine used to disinfect drinking water. These disinfection by-products are made up of several components. None of the individual components of these disinfection byproducts are regulated. However, the sum of these components is regulated and is included in the table below.

On April 1, 2012, The City of Burlington became subject to what are commonly referred to as the Stage 2 Disinfection Byproduct (DBP) Rules, or the Stage 2 DBP rules. **Under the new Stage 2 DBP rule**, compliance with the rule is calculated by averaging the four quarterly results for **each** of the 8 different sample locations. If the 4-quarter average for any of the 8 sample locations exceeds the compliance limit for any of the Disinfection By-Products, the entire water system is considered out of compliance with the Stage 2 DBP rule and a public notification must be sent to customers.

Parameter	MCLG	Federal MCL	Burlington Water System	Major Sources in Drinking Water	Health Effects
Total Trihalomethanes (µg/L) 4-Quarter Average	NA	80	40	By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Range of TTHM for 2023 (µg/L)			25 - 64	This is the range (lowest and highest) of all compliance values for TTHM samples reported in 2023	
Total Haloacetic acids (µg/L) 4-Quarter Average	NA	60	36	By-product of drinking water chlorination	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer
Range of HAA5 for 2023 (µg/L)			25 - 47	This is the range (lowest and highest) of all compliance values for HAA samples reported in 2023	

Note: All sample locations were in compliance with the Stage 2 DBP rules in 2023.

Pesticides & Synthetic Organic Compounds

These contaminants may come from sources like agriculture, urban stormwater runoff, residential uses, industrial processes and petroleum production, gas stations, and septic systems.

The City of Burlington is required to test for 26 Pesticides and Synthetic Organic Compounds at both water treatment plants every three years. The last test for these compounds was conducted on September 13, 2022. There were No Synthetic Organic Chemicals or Pesticides detected in the water collected at the JD Mackintosh Water Treatment Plant. Whereas the water collected at Ed Thomas Water Treatment Plant indicated a trace of dalapon (0.001 mg/L). Although, per EPA drinking water standards, the allowable limit for dalapon is set to 0.2 mg/L, the City was required by the North Carolina Department of Environmental Quality (NCDEQ) to quarterly monitor dalapon at Ed Thomas Water Treatment Plant for one year commencing November 2022. The results of November 2022 and January 2023 did not show any presence of dalapon in the drinking water from Ed Thomas Water Treatment Plant, but the April 2023 and September 2023 tests showed a detectable level of dalapon (0.001 mg/L and 0.002 mg/L respectively). The November 2023 water test did not show a detectable level of dalapon. However, the NCDEQ has instructed the City to continue to yearly monitor dalapon in the finished water of Ed Thomas Water Treatment Plant, namely in the third quarter of the calendar year.

The next round of testing for Pesticides & Synthetic Organic Compounds for both plants is scheduled to be conducted in 2025.

Lead & Copper

USEPA requires that the City perform household testing in accordance with the 1994 Lead and Copper Rule. According to that rule, 90% of the samples taken from locations in Burlington identified as “high risk” must have less than 15 parts per billion (ppb or ug/L) of lead and less than 1,300 parts per billion (ppb or ug/L) of copper. These sample locations are classified as “high risk” because they were constructed using copper pipe and lead solder as components in the plumbing system. New building codes and regulations no longer permit houses to be built using these components. Testing in **2021** indicated that the average concentration of lead in these “high risk” homes was less than 3 ppb, and the average concentration of copper was less than 50 ppb, both well below the regulatory limits. Lead and copper samples are collected by the homeowner and analyzed by a certified laboratory. Samples are collected after the water has been left undisturbed in the household plumbing for an extended period of time (at least 6 hours). This is intended to collect a water sample that represents the “worst case” for lead and copper. **The next scheduled round of Lead and Copper sampling will occur between June 1 and September 30, 2024.**

Parameter	MCLG	Action Level	Max	Average result from Tier 1 sites in Burlington		Major Sources in Drinking Water
				Average	90 th Percentile	
Lead, Pb (µg/L)	0	15	<3	<3	<3	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper, Cu (µg/L)	1,300	1,300	93	<50	85	Corrosion of household plumbing systems; Erosion of natural deposits.

Microbiological

Microbial contaminants in the source water, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock and wildlife. The physical processes and disinfection chemicals used during the treatment process effectively eliminate harmful organisms that may be in the untreated water. Microbiological testing is performed daily to assure the absence of these organisms and to monitor the efficiency of these treatment techniques. Total Coliform and E. coli tests are performed on samples taken from the treatment plants, homes and businesses throughout the city. Total coliform samples are water samples that are taken from homes and businesses in the distribution system. There were 790 samples collected in 2023 and all tested negative for total coliform.

Parameter	MCLG	Federal MCL	Burlington Water System Average	JDMWTP	ETWTP	Major sources in Drinking Water
Total Coliform* (see note)	0	<5% of samples	0.0%	NA	NA	Naturally present in the environment
E. Coli	0	0	0.0%	NA	NA	Human and animal fecal waste
Average CFE Turbidity **	NA	TT	NA	0.04	0.04	Soil runoff
Maximum Turbidity**	NA	TT	NA	0.08	0.16	Soil runoff

Turbidity

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU. For systems that use conventional or direct filtration such as Burlington Water System, at no time can turbidity (cloudiness of water) go higher than 1 NTU. **Turbidity itself has no health effects.** However, turbidity can interfere with the disinfection process and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

In 2023, turbidity was measured at multiple locations throughout the treatment process and 100% of Combined Filter Effluent (CFE) water samples tested for turbidity were below 0.3 NTU. Also, the highest turbidity values recorded at JDMWTP and ETWTP were 0.08 NTU and 0.16 NTU.

Radiological Contaminants

Radioactive contaminants in source water may be naturally occurring or may be the result of oil and gas production and mining activities. The table is based on samples collected on September 27, 2017.

Parameter	Last Test	MCLG	Federal MCL	Burlington Water System	Major Sources in Drinking Water
Gross Alpha (pCi/L)	2017	0	15	ND	Erosion of natural deposits
Uranium (pCi/L)	2017	0	20.1	ND	Erosion of natural deposits
Combined Radium (pCi/L)	2017	0	<1.0	NA	Erosion of natural deposits

Total Organic Carbon (TOC)

Parameter	TT Violation Y/N	Average Raw Water TOC mg/L	Average Finished Water TOC mg/L	Annual Average Removal Rate %	Range Monthly Removal Rate Lowest % Highest %	MCLG	Likely Source of Contamination	Compliance Method (Step 1 or ACC#_)
JDMWTP	N	5.73	2.22	61.25	55.10 68.75	NA	Naturally present in the environment	Step 1
ETWTP	N	7.33	2.78	62.16	56.92 69.74	NA	Naturally present in the environment	Step 1

Secondary Standards

Secondary standards are non-enforceable standards that assure that your water meets standards of appearance, odor, and taste. These aesthetic contaminants normally do not affect the safety of your water.

Parameter	SMCL	JDMWTP	ETWTP	System Range	Major sources in drinking water
Iron (µg/L)*	300	< 60	< 60	NA	Naturally occurring
Manganese (µg/L)*	50	< 10	12	NA	Naturally occurring

*Data reported for Iron and Manganese was taken from 3rd party analysis of inorganic chemicals conducted on 5/31/2023. Iron and manganese are tested regularly for process control. Those process control results are not included in this report.

Cryptosporidium sp.

Cryptosporidium sp. is a microscopic organism that, when ingested, can cause diarrhea, fever and other gastrointestinal symptoms? The organism occurs naturally in surface waters (lakes and streams) and comes from animal wastes. Cryptosporidium sp. is eliminated by an effective treatment combination of coagulation, sedimentation, filtration and disinfection. Both of the City's water supply reservoirs underwent a 2-year sampling program to evaluate the water supplies for this organism. The City of Burlington completed monthly sampling at both reservoirs for 2 months in 2017 (This sampling program began in 2015 and consisted of a total of 24 samples). Each sample was sent to a certified lab for analysis.

The most recent sampling occurred between January 1, 2017 through December 31, 2017 – 2 samples at each reservoir. The results are listed below.

Location	Samples Collected	Total oocysts detected	Average Concentration	Concentration Requiring Additional Treatment
Stoney Creek Reservoir	2 (20 Liters)	0 oocysts	0.000 / Liter	0.075 oocysts / Liter
Mackintosh Reservoir	2 (20 Liters)	0 oocysts	0.000 / Liter	0.075 oocysts / Liter

Other Physical and Chemical Information

The following information is derived from routine analyses and is included for your information. These parameters are not regulated under the Safe Drinking Water Act and may vary widely between systems. Unless otherwise noted with an asterisk (*), all results in this table are system averages that were reported on monthly operation reports.

Parameters	JDMWTP	ETWTP	Parameters	JDMWTP	ETWTP
Orthophosphorus, µg/L (minimum required: 500 µg/L)	1,000	910	Sodium (mg/L)*	24.9*	20.3*
Alkalinity, mg/L as CaCO ₃	34	36	Sulfate (mg/L)*	35*	26*
Carbon Dioxide	2.5	7.0	Hardness (mg/L)	31	28
pH (Average), Standard Units, S.U.	8.0	8.0	Hardness (Grains/Gal)	1.81	1.64

*Data reported was taken from a 3rd party analysis of inorganic chemicals conducted on 5/31/2023
(Multiply Hardness expressed as grains per gallon by 17.1 to obtain ppm)

Unregulated Contaminant Monitoring Rule Sampling (UCMR4)

The UCMR requires water systems to collect and analyze water samples for 28 chemicals and 2 viruses that are **currently not regulated**. The results of these samples help to guide EPA in setting future drinking water regulations. The results of the most recent UCMR4 data are included in the table below. This table only includes data for UCMR4 parameters that were **detected**. The UCMR4 list was developed by EPA and includes compounds for potential regulation to determine their relative occurrence around the country. The City of Burlington will begin collecting samples for the UCMR5 in July 2024.

UCMR 4 Parameters	JD Mackintosh WTP		Ed Thomas WTP		Distribution System		Year Tested
	Average	Range	Average	Range	Average	Range	
Manganese, µg/L	16.8	2.22 – 49.8	17.3	7.7 – 35.5	NA	NA	2018
Quinoline, µg/L	ND	ND	23.7	20.2 – 27.0	NA	NA	2018
Source Water TOC, ppb	6,428	5,530 – 7,950	7,525	6,320 – 8,720	NA	NA	2018
Source Water Bromide,	20.9	20 – 21.8	ND	ND	NA	NA	2018
Haloacetic Acids-9, ppb	NA	NA	NA	NA	44.8	28.8 – 55.9	2018
Anatoxin-a*, ppt	38.6	41.7 – 74.1	39.1	35.8 – 40.8	NA	NA	2019

***Anatoxin-a:** 3 of 8 samples from the Ed Thomas plant had detectable levels and 2 of 8 samples from the JD Mackintosh plant had detectable levels

Individuals may obtain the analytical results and health information for UCMR4 data by contacting the City of Burlington Water Resources Department at (336) 222-5133. For more information on the UCMR4, please visit the EPA website at: <https://www.epa.gov/sites/production/files/2018-10/documents/ucmr4-data-summary.pdf>

Additional Monitoring for Other Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted. Health Advisory (HA) is an estimate of acceptable drinking water levels for a chemical substance based on health effects information; **a health advisory is not a legally enforceable Federal standard**, but serves as technical guidance to assist Federal, State, and local officials.

Other Unregulated Contaminants	Federal Health Advisory	JD Mackintosh WTP		Ed Thomas WTP	
		Average	Range	Average	Range
Perfluorooctanoic Acid referred as PFOA	0.004 ng/L or ppt (Interim)	2.10 ng/L	0.00 - 3.40 ng/L	13.20 ng/L	8.10 - 24.0 ng/L
Perfluorooctane Sulfonic referred as PFOS	0.02 ng/L or ppt (Interim)	2.93 ng/L	0.00 - 6.30 ng/L	11.90 ng/L	6.80 - 20.0 ng/L
Hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt referred as GenX Chemicals	10 ng/L or ppt (Final)	ND	0.00 - 0.00 ng/L	ND	0.00 - 0.00 ng/L
Perfluorobutane sulfonic acid and its related compound potassium perfluorobutane sulfonate (together referred to as PFBS)	2,000 ng/L or ppt (Final)	ND	0.00 - 0.00 ng/L	0.70 ng/L	0.00 - 2.8 ng/L
1,4 Dioxane	0.2 mg/L	<2.0 µg/L	<2.0 - <2.0 µg/L	<2.0 µg/L	<2.0 - <2.0 µg/L

Notes:

- Prior to June 15, 2022, the Federal Health Advisory level for PFOA and PFOS combined was 70 ppt.
- Current analytical methods can detect GenX chemicals and PFBS at the Health Advisory (HA) values but cannot detect PFOA and PFOS at the level of the interim Health Advisory.
- In 2012, USEPA established a lifetime health advisory of 0.2 mg/L for 1,4-dioxane in drinking water (Technical Fact Sheet – 1,4-Dioxane January 2014, <https://semsub.epa.gov/work/01/575107.pdf>). USEPA typically uses reference levels of 0.35–35 µg/L, which corresponds to 1:1,000,000 and 1:10,000 cancer risk, respectively, when communicating exposure risks associated with 1,4-dioxane in drinking water (<https://14d-1.itrcweb.org/regulatory-framework/>).
- The Reporting Limit (RL) for 1,4-dioxane in the finished water using the analytical method SW-846 was 2.0 µg/L. The RL is the lowest concentration of a constituent that can be reliably measured with accuracy and precision and reported by a laboratory. If a laboratory is unable to detect a constituent in a sample, it does not necessarily mean that the constituent is absent from the sample. It could be that the constituent concentration in the sample is below the sensitivity of the testing instrument. Concentrations below the RL are reported as not detectable at the RL or “less than” the RL.