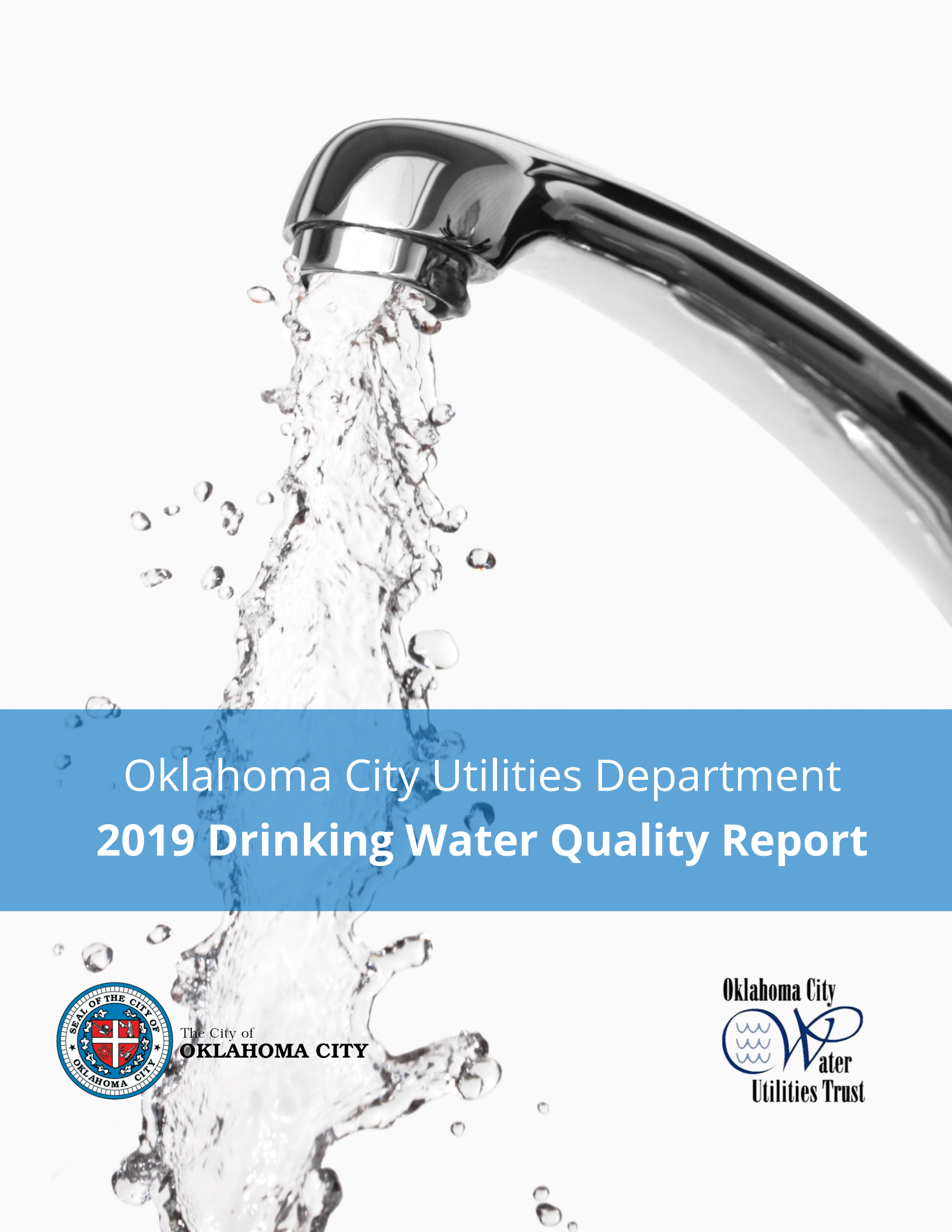

Oklahoma City Utilities Department

2019 Drinking Water Quality Report

The City of
OKLAHOMA CITY

Oklahoma City Water Utilities Trust

Municipal tap water is the life source for every community. It contributes to public health, keeps citizens safe from waterborne illness, drives economic prosperity, and helps us in our daily lives.

The Oklahoma City Water Utilities Trust (OCWUT) is committed to providing clean, fresh drinking water to residents and visitors throughout Central Oklahoma. More than 1.4 million Oklahomans in 18 different communities receive drinking water through our retail and wholesale water programs. That's nearly one-third of the state's population.

Water Sources

Oklahoma City's water footprint spans 250 miles and includes seven surface water reservoirs from five Oklahoma counties. They include Canton Lake in northwest Oklahoma, McGee Creek, Lake Atoka and Sardis Lake in south-eastern Oklahoma, as well as Lake Overholser, Lake Hefner and Lake Stanley Draper in Oklahoma City.

Water from the northwest travels along the North Canadian River and empties into Lake Overholser before being sent up to the Hefner Treatment Plant via a series of canals and natural tributaries. Water from the southeast travels through a 60", 100-mile pipeline that was constructed in 1962. OCWUT is currently building a second, 72" pipeline so we can continue to meet water demand for future generations.

Our seven reservoirs feed into the Hefner and Draper water treatment plants, which treat the water, then distribute it through the city's water distribution system. Our reservoirs also provide recreational opportunities to lake visitors, including boating, fishing and water skiing.

OWCUT also has an agreement in place to pull water from the City of Edmond to serve a small number of residents. To see a copy of their CCR, visit http://edmondok.com

Raw water accumulates in reservoirs from spring and summer rains. As water travels over the ground, it can pick up naturally-occurring minerals found in rocks and soil, pesticides and herbicides used in farming, as well as bacteria from animal or human activity.

Raw water delivered to our reservoirs is processed at Oklahoma City's two water treatment plants, the Hefner Water Treatment Plant and the Draper Water Treatment Plant. Each plant treats the water in a slightly different way, based upon the raw water make-up and the technology available at each facility.

During treatment, certified water quality experts take raw water through an extensive treatment process that removes harmful bacteria and other contaminants. Ozonation and activated carbon filtration are two of the processes we utilize. We also disinfect the water by introducing a small amount of chlorine. Fluoride is also added to help prevent tooth decay.

Meeting the Test

To ensure water is safe to drink, the Environmental Protection Agency (EPA) and Oklahoma Department of Environmental Quality (ODEQ) set regulations that limit the amounts of certain contaminants that can be in water provided by public utilities.

Oklahoma City tests the water at its two treatment plants. Tests are conducted as raw water is coming into the plants, as well as after the water has been treated and pushed into our distribution system. OCWUT owns its own State-certified laboratory, which tests the City's water.

We test the water at more than 240 State-approved sites throughout our distribution system. This helps ensure the quality of water remains at all points along our 3,800-mile distribution system. In 2019, our plant operators and laboratory chemists tested more than 205,000 individual water samples. Results are reported monthly to the ODEQ, and serve as independent quality control.

Test results are also included here, our annual Consumer Confidence Report (CCR), which is a requirement of the 1974 Safe Drinking Water Act.

In each case, Oklahoma City water meets or surpasses all regulatory requirements set forth by the EPA. Oklahoma City's CCR is included with this report, and can be found online at www.okc.gov/ccr. To receive a copy of this report by mail, call Utilities Customer Service at (405) 297-2833.

A note on COVID-19

The COVID-19 pandemic has raised concern with government officials and citizens across the U.S. Per the U.S. EPA, the virus has not been found in drinking water supplies, and given the virus' nature, the risk to water supplies remains low.

Americans may continue to use and drink water from their tap as usual.

Oklahoma City Utilities - Water Quality Summary 2019

DETECTED CONTAMINANTS	UNITS	IDEAL GOAL (EPA'S MCLG)	HIGHEST LEVEL ALLOWED (EPA'S MCL)	HEFNER WTP PWS ID 1020902	DRAPER WTP PWS ID 1020902B	COMPLIANCE	MAJOR SOURCES IN DRINKING WATER
Inorganic Compounds							
Fluoride[1]	ppm	4	4	Average level detected in most recent testing - 2019		YES	Added during treatment for dental health or dissolved from natural deposits
				0.67	0.69		
Lead	ppb	0	AL = 15	Most recent systemwide distribution testing		All Sites < AL	Corrosion of household plumbing; erosion of natural deposits
				August 2019 - 90th Percentile = 2.84		YES	
Barium	ppm	2	2	Highest level, most recent testing - 2013		YES	Discharge of Drilling Wastes; discharge from metal refineries; erosion of natural deposits
				0.052	0.057		
Copper	ppm	0	AL = 1.3	Most recent systemwide distribution testing		All Sites < AL	Corrosion of household plumbing; erosion of natural deposits
				August 2019 - 90th Percentile = 0.153		YES	
Arsenic	ppb	0	10	Highest level, most recent testing - 2013		YES	Erosion of natural deposits; runoff from orchards; runoff from electronics and glass production wastes
				< 2	< 2		
Nitrate-Nitrite[2]	ppm	10	10	Highest level, most recent testing - 2019		YES	Runoff from fertilizer; leaching from septic tanks, sewage or erosion of natural deposits
				0.687	0.107		
Di(2-Ethylhexyl) Phthalate	ppb	0	6	Highest level, most recent testing - 2019		YES	Discharge from rubber and chemical factories
				< 2.00	2.59		
Radiological							
				Highest level, most recent testing - 2018		YES	Decay of natural and man-made deposits
Gross Alpha	pCi/L	0	15	< 3.00	< 3.00		
Gross Beta	pCi/L	0	50	6.75 ± 0.56	< 4.00		
Radium 226	pCi/L	0	5	< 1.00	< 1.00		
Radium 228	pCi/L	0	5	< 1.00	< 1.00		
Uranium	ppb	0	30	< 1.0	< 1.0		
Disinfection By-Products Stage 2 Rule Monitoring[3]							
Total Trihalomethanes[4]	ppb	0	80 (LRAA)	Most recent systemwide distribution testing 2018/2019		YES	By-product of drinking water disinfection
				Highest Locational Running Annual Average (LRAA)			
				12716 NE 36th St (Draper) - 73.83			
				Range Detected: 9.15 - 73.83			
				Highest quarterly average (LRAA)			
				21.61	73.83		
				Range detected			
				4.08 - 30.40	23.64 - 84.42		
Haloacetic Acids[4]	ppb	0	60 (LRAA)	Most recent systemwide distribution testing 2018/2019		YES	By-product of drinking water disinfection
				Highest Locational Running Annual Average (LRAA)			
				12716 NE 36th St (Draper) - 50.44			
				Range Detected: 4.96 - 50.44			
				Highest quarterly average (LRAA)			
				11.45	50.44		
				Range detected			
				3.51 - 14.10	12.63 - 59.68		
Bromate[5]	ppb	0	10 (RAA)	Highest quarterly average (RAA) - <5.00		YES	By-product of disinfection by ozone **Only Hefner Plant uses Ozone**
				Range detected - <5.00 - 9.38			
Precursor Removal							
Total Organic Carbon[6] (TOC)			TT = Ratio must be greater than or equal to 1.00 for compliance	Average of monthly ratios		YES	Naturally occurring
				1.571	0.442		
				Monthly Ratio = (% TOC removed) divided by (% TOC removal required)			
Disinfection Residual							
Chloramines as Chlorine[7]	ppm	NA	MRDL	Average readings		YES	Water additive used to control microbes
			4.0	3.70	3.36		
			Range detected	2.3 - 5.0	2.9 - 3.7		
Microbiological							
Coliform Bacteria	CFUs % positive	0	Presence of Coliform bacteria in <5% of samples	2019 System-wide distribution testing		YES	Naturally present in the environment
				Month having the highest % positive - July & August Each month had 4 positive samples in 252 samples - 1.59 %			
				15 positive Coliform results in 2925 samples 0.512 % occurrence			
Clarity							
Turbidity[8]	NTU % > 0.3	NA	TT = > 0.3 NTU in not more than 5% of samples	Lowest monthly % of samples with < 0.3 NTU		YES	Lime and/or calcium carbonate particles from softening efforts; soil runoff
				100.0%	98.9%		
				Highest single reading			
				0.25	3.97		
Long Term 2 Enhanced Surface Water Treatment Rule							
Cryptosporidium[9]	cysts/L	0	NA	Most recent testing 2016-2017. Source water averages are <0.075 cysts/L, which is considered low risk category.		YES	Storm runoff, agricultural runoff and leaking sewage systems
Detected UCMR3 Analytes (2013)[10]							
				Average	Range		
Chlorate	ppb	NA	NA	36.4	<20.0 - 36.4	NA	By-product of drinking water disinfection, making of dyes, explosives, matches, printing fabrics, herbicides, antiseptics, toothpastes and in paper pulp processing.
Hexavalent Chromium	ppb	NA	NA	0.141	<0.030 - 0.391	NA	Naturally occurring. By-product of making steel and other alloys, plating, dyes and pigments, leather and wood preservation.
Total Chromium	ppb	100 (0.100 mg/L)	100 (0.100 mg/L)	0.428	<0.200 - 0.471	YES	Naturally occurring. By-product of making steel and other alloys, plating, dyes and pigments, leather and wood preservation.
Molybdenum	ppb	NA	NA	2.76	<1.00 - 3.24	NA	Naturally occurring. By-product of making steel and other alloys, lubricants, dyes and pigments, fertilizers.
Strontium	ppb	NA	NA	295	42.9 - 763	NA	Naturally occurring. By-product of making electronics and fireworks.
Vanadium	ppb	NA	NA	2.78	<0.200 - 7.50	NA	Naturally occurring. By-product of making steel alloys, chemical manufacturing, ceramics and batteries.

Definitions & Abbreviations Used in the Water Quality Summary

EPA – US Environmental Protection Agency
MCL – Maximum Contaminant Level is 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.
MCLG – Maximum Contaminant Level Goal is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.
MRDL – Maximum Residual Disinfectant Level is the highest level of a disinfectant allowed in drinking water based on an annual average and does not apply to individual samples. There is convincing evidence that addition of a disinfectant is necessary to control microbial contaminants. Compliance with the MRDL is calculated as a Running Annual Average (RAA).
MRDLG – Maximum Residual Disinfectant Level Goal is 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 contamination.
RAA – Running Annual Average is the average of the last 12 months or last 4 quarters that the facility is in operation. Disinfectants and disinfectant by-products monitored in this way are Total Trihalomethanes, Haloacetic Acids, Bromate and Chloramines.
LRAA – Locational Running Annual Average is the average of the last 12 months or last 4 quarters for each identified monitoring location in the distribution system. This differs from past requirements, which determined compliance by calculating the RAA of samples from all monitoring locations across the distribution system. Total Trihalomethanes and Haloacetic Acids are monitored in this way.
AL – Action Level
TT – Treatment Technique - a required process intended to reduce the level of a contaminant in drinking water.
NTU – Nephelometric Turbidity Units (a measure of clarity)
pCi/L – picocuries per liter (a measure of radioactivity)
ppm – parts per million or milligrams per liter (mg/L)
ppb – part per billion or micrograms per liter (μg/L)
CFU – Colony Forming Units
< – less than > – greater than

People with Health Concerns

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 of infections. These people should seek advice about drinking water from their healthcare providers. The EPA and Centers for Disease Control guidelines on appropriate ways to lessen the risk of infection by Cryptosporidium (an intestinal parasite that can be fatal in some immune-compromised persons) and other microbial contaminants are
available from the Safe Drinking Water Hotline at 1-800-426-4791.

Footnotes

Monitoring Frequency Note: The state has set forth enforceable regulations on how often contaminants must be monitored and tested. Some of our data, though representative, is more than one year old.

ODEQ monitors and tests the following Inorganic Compounds and Radiological Compounds for Oklahoma City Utilities: Barium, Arsenic, Gross Alpha, Gross Beta, Radium 226 + 228 and Uranium.

Required Sampling Frequency:
Every 9 years - Fluoride, Barium and Arsenic
Every 6 years – Radionuclides

1. Fluoride: Monitored every 12 hours at each Water Treatment Plant. The highest single reading for 2019 at each plant was below the MCL and considered a safe level.

> ***Draper*** – Highest single reading = 0.83 ppm. Average fluoride concentration for 2019 = 0.69 ppm
> ***Hefner*** – Highest single reading = 0.90 ppm. Average fluoride concentration for 2019 = 0.67 ppm

Footnotes (con't.)

2. Nitrate-Nitrite: Measured as the sum of Nitrate-N and Nitrite-N.
3. Disinfection By-Products Stage 2 Rule Monitoring: U.S. water utilities are required to continuously improve the quality of water delivered to customers. The Federal Environmental Protection Agency and the Oklahoma Department of Environmental Quality enforce drinking water laws and develop long-range improvement activities. In 2009, Oklahoma City collected information on how THMs and HAAs change in the water system and is working with EPA and DEQ to decrease the numbers.
4. Total Trihalomethanes and Haloacetic Acids: The MCL is based on the RAA; therefore, the MCL does not apply to individual samples that are allowed to be higher than the MCL.
5. Bromate: The MCL is based on the RAA; therefore, the MCL does not apply to individual samples that are allowed to be higher than the MCL. Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
6. Total Organic Carbon: Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products. These by-products include Trihalomethanes (THMs) and Haloacetic Acids (HAAs). Drinking water containing these by-products in excess of the MCL (Maximum Contaminant Level) may lead to adverse health effects. TOC compliance is based on the percent TOC removed, not the total amount present. The starting TOC at the Draper Treatment facility is low; therefore, the potential for formation of THMs and HAAs due to TOC is low. The THM and HAA values for the Draper Treatment facility are below the LRAA MCL, which is currently considered a safe level for these disinfection by-products. Draper Treatment facility uses an alternative method (SUVA analysis) for meeting TOC removal criteria.
7. Chlorine: Compliance with the 4.0 mg/L MRDL is based upon an annual average; therefore, the MRDL does not apply to individual samples that are allowed to be higher than the MRDL.
8. Turbidity: Turbidity is a measure of the cloudiness or clarity of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

> **Note:** On August 24, 2019 the combined filter effluent turbidity spiked to 3.75 NTU. The spike lasted 7 minutes and 35 seconds. Again, on August 29, 2019 the combined filter effluent turbidity spiked to 3.97 NTU. The spike lasted 8 minutes and 3 seconds. Both incidents were caused by insufficient filter backwash. DEQ was notified and no further action was required since the spikes lasted less than 15 minutes. The health and safety of our water customers was not compromised.

9. Cryptosporidium: Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Cryptosporidium is part of the Long Term 2 Enhanced Surface Water Treatment Rule and testing was required for a consecutive 24 months. Our testing was completed in December of 2017. Source water averages are <0.075 cysts/L, which are considered low risk category.
10. UCMR3: EPA uses the Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA reviews the list of contaminants, largely based on the Contaminant Candidate List. The SDWA Amendments of 1996 provide for:

> Monitoring no more than 30 contaminants every five years
> Monitoring only a representative sample of public water systems serving less than 10,000 people
> Storing analytical results in a National Contaminant Occurrence Database (NCOD).

UCMR3 is the third round of monitoring under the UCM Rule.

Overholser Water Treatment Plant was offline for the entire year of 2019. All data related to the Overholser Treatment Plant has been removed from the Consumer Confidence Report.

City of Oklahoma City

Drinking Water Quality Report

For the testing period between January 1-December 31, 2019

HOW TO READ YOUR WATER QUALITY REPORT

The year(s) tests were conducted.

Below this level a contaminant has no known or expected health risks.

Highest amount of a contaminant EPA allows in drinking water.

How a contaminant ends up in Oklahoma City's drinking water.

Year Sampled	Contaminant	Highest Average	Range of Levels	MCLG	MCL	Units	Violation	Possible Source(s) of Contaminant
2016	Substance 1	0.05	0.02-0.11	2	4	ppm	N	Discharge of drilling wastes or metal refineries; erosion of natural deposits.
2016	Substance 2	2.4	0-3.4	No goal for the total	60	ppb	N	By-product of drinking water disinfection.

The amount from lowest to highest of a contaminant detected in Oklahoma City's drinking water.

Parts per billion—one ppb equals to one teaspoon in 1,302,000 gallons.

Parts per million - one ppm equals to one teaspoon in 1,302 gallons.

What is a Contaminant?

Put simply, a contaminant in water is anything other than hydrogen or oxygen, or H20, the two hydrogen atoms and one oxygen atom that make up one water molecule. Contaminants do not mean there is a health risk. They simply mean there is something else in the water besides the elements that make up the water.

Understanding the Tables

The following tables contain scientific terms and measures, some of which may require explanation.

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.

Average: Regulatory compliance with some MCLs are based on running annual average monthly samples.

Erosion of natural deposits: This language is required in the "possible source of contaminant column" for contaminants that are naturally-occurring. Erosion of natural deposits actually means the substance is naturally-present in drinking water and was not added.

Maximum Contaminant Level (MCL): 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,

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 (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 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.

NA: not applicable

ppb: micrograms per liter or parts per billion. One part per billion is the same as one ounce in 7,812,500 gallons of water, an order of magnitude smaller than one part per million.

ppm: milligrams per liter or parts per million. One part per million is the same as one ounce in 7,812.5 gallons of water.

Oklahoma City Water Utilities Trust

In 2019, the American Water Works Association (AWWA) awarded the Oklahoma City Utilities Department with its Partnership for Safe Water designation for its commitment to continued water quality improvements and system optimization.

The Partnership of Safe Water is an alliance of the AWWA, Association of State Drinking Water Administrators, the U.S. Environmental Protection Agency, the National Association of Water Companies, Association Municipal Water Agencies and the Water Research Foundation.

To earn designation in the Partnership for Safe Water, Utilities earning Safe Water designation must meet stringent criteria after going through a rigorous self-assessment in order to be considered.

Got Questions? Contact Us!

Customer Service
(405) 297-2833
water@okc.gov
To start or change water or trash service, pay a bill or report a trash collection issue.

24-hour Emergency Dispatch
(405) 297-3334
To report water or sewer outages, water quality concerns or water emergencies.

Water Quality Questions or Concerns:
(405) 297-3483

Public Information / Media Requests:
(405) 297-2422

Oklahoma City Water Utilities Trust

Carl Edwards, Chair, Independent Trustee

David Greenwell, Vice Chairman
Jessica Martinez Brooks, Independent Trustee
David Holt, Mayor Trustee
Mark K. Stonecipher, Surrogate Trustee
Craig Freeman, City Manager Trustee
Chris Browning, General Manager
Frances Kersey, Secretary

OCWUT meetings are held the 1st and 3rd Tuesday of every month at 2 p.m. (unless otherwise posted) inside the Oklahoma City Council Chambers in City Hall, 210 North Walker Ave. Agendas are posted on the City's website at www.okc.gov.

SqueezeEveryDrop.com

Local lakes may look full, but it takes only a few weeks with high temperatures and no rain to start depleting our water supply.

You can help by following these easy water conservation tips:

Fix leaky toilets and faucets.

Don't water your yard more than two times per week.

Turn off the water when brushing your teeth.

Use a bucket and sponge to save water while washing your car.

Top your garden with mulch to help keep soil moist.

Check your sprinkler system to make sure it works correctly.

For more information, visit squeezeverydrop.com or follow us on Facebook or Twitter @squeezeeverydrop.