CITY OF OKLAHOMA CITY
2021 WATER QUALITY REPORT

Oklahoma City Water Utilities Trust

The City of OKLAHOMA CITY Utilities Department

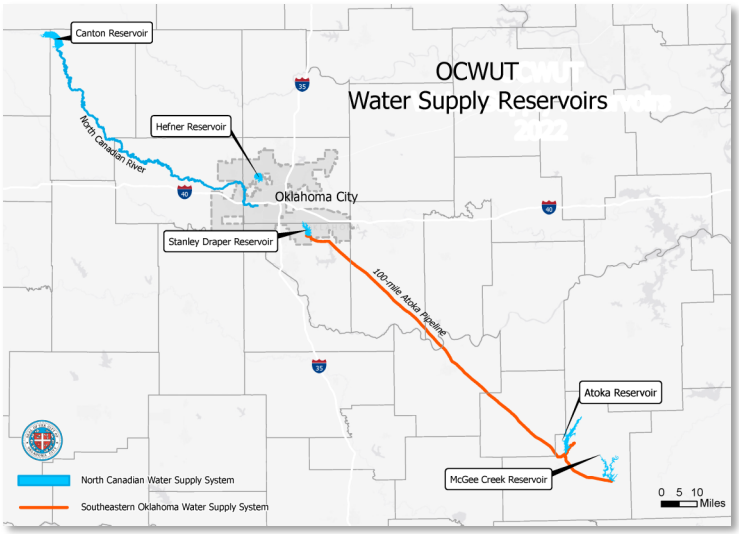
Municipal tap water is the life source for every community. Our dependable water supply contributes to public health, keeps citizens safe from waterborne illness, drives economic prosperity, and is vital to our everyday lives.

The Oklahoma City Water Utilities Trust (OCWUT) treats and delivers an average of 100 million gallons of drinking water every day to more than 1.4 million customers in 18 different communities in Central Oklahoma.

This Drinking Water Quality Report (aka Consumer Confidence Report) provides information about water treated and delivered in 2021. Water quality data is summarized in the included table. In each regulatory category, our water met or exceeded the standards as set forth by the U.S. Environmental Protection Agency (EPA).

Water Sources

Oklahoma City's drinking water comes from five surface reservoirs along a 250-mile span between northwest and southeast Oklahoma. They include the Canton Reservoir in northwest Oklahoma, McGee Creek and Atoka Reservoir in the southeast, and the Hefner and Stanley Draper reservoirs in Oklahoma City.



Water from Canton flows into the North Canadian River and is diverted to the Hefner reservoir for treatment. Water from southeast Oklahoma travels through the 100-mile Atoka pipeline constructed in 1962 and empties into the Stanley Draper Reservoir for treatment at the Draper Treatment Plant. The new, 72-inch second Atoka pipeline is currently under construction. When complete, it will help OCWUT meet the water supply demands of our growing population for future generations.

Raw water accumulates in reservoirs from spring and summer rains. As it travels over the ground, it picks up naturally-occurring minerals found in rocks and soil, plus pesticides or herbicides used in farming, and bacteria from human or animal activity before reaching our reservoirs.

Water Treatment

Oklahoma City's water quality operators go to great lengths to deliver clean, great-tasting tap water seven days a week, and 24 hours per day. It's a responsibility we take seriously.

Water is treated continuously at Oklahoma City's two water treatment plants, Hefner and Draper. Raw water goes through an extensive treatment and filtration process to remove harmful bacteria and other contaminants. It is then disinfected using a small amount of chlorine and ammonia. Fluoride is also added to help prevent tooth decay as part of our participation in the U.S. Community Fluoridation Program.

Operators also run quality control tests to ensure treatment accuracy. Environmental chemists with the City's water quality laboratory conduct weekly tests at each plant and pull monthly tests from 260 state-approved sample sites located throughout the distribution system. Staff works closely with the Oklahoma Department of Environmental Quality (ODEQ) to ensure water regulatory and safety guidelines are met as part of the Safe Drinking Water Act of 1974.

In 2021, laboratory staff conducted more than 210,000 individual tests. Data is reported monthly to the ODEQ.

OCWUT has an agreement to deliver water from the City of Edmond to serve a small number of residents. To see a copy of their report, visit edmondok.com.

The EPA regulates the amount of contaminants in water provided by public water systems to ensure tap water is safe to drink. Some contaminants may cause questions related to color, taste or odor, but are not necessarily reasons for health concerns.

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 storm water 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 storm water 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 storm water runoff, and septic systems
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities

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 under-gone organ transplants, people with HIV/AIDS or other immune system disorders, and 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.

Mandatory Lead 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 EPA's Safe Drinking Water Hotline at 1-800-426-4791.

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. We 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 Oklahoma City Water Utilities Trust is a proud member of the Partnership for Safe Water, an alliance of six drinking water organizations to improve and promote the quality of water delivered to customers by optimizing water systems.

To qualify for designation, water utilities must meet stringent criteria in all aspects of its water treatment and quality of product delivered to customers.

Member organizations that aid in developing and reviewing the assessment criteria include the American Water Works Association, Association of Metropolitan Water Agencies, Association of State Drinking Water Administrators, the National Association of Water Companies, the United States Environmental Protection Agency, and Water Research Foundation.

OCWUT received AMWA's Platinum Award for Excellence in Utilities Management in 2021.

Oklahoma City Utilities - Water Quality Summary 2021

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 - 2021: 0.64	0.68	YES	Added during treatment for dental health or dissolved from natural deposits
Lead	ppb	0	AL = 15	Most recent systemwide distribution testing: August 2021 - 90th Percentile = 1.42		All Sites < AL YES	Corrosion of household plumbing; erosion of natural deposits
Barium	ppm	2	2	Highest level, most recent testing - 2013: 0.052	0.057	YES	Discharge of Drilling Wastes; discharge from metal refineries; erosion of natural deposits
Copper	ppm	0	AL = 1.3	Most recent systemwide distribution testing: August 2021 - 90th Percentile = 0.124		All Sites < AL YES	Corrosion of household plumbing; erosion of natural deposits
Arsenic	ppb	0	10	Highest level, most recent testing - 2013: < 2	< 2	YES	Erosion of natural deposits; runoff from orchards; runoff from electronics and glass production wastes
Nitrate-Nitrite[2]	ppm	10	10	Highest level, most recent testing - 2021: 0.385	0.062	YES	Runoff from fertilizer; leaching from septic tanks, sewage or erosion of natural deposits
Radiological							
				Highest level, most recent testing - 2018			
Gross Alpha	pCi/L	0	15	< 3.00	< 3.00	YES	Decay of natural and man-made deposits
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 2020/2021 Highest Locational Running Annual Average (LRAA) 3738 SW 15th St, Bldg 2 (Draper) - 69.50 Range Detected: 8.89 - 69.50 Highest quarterly average (LRAA): 30.90	69.50	YES	By-product of drinking water disinfection
				Range detected: 6.40 - 35.68	43.70 - 78.40		
Haloacetic Acids[4]	ppb	0	60 (LRAA)	Most recent systemwide distribution testing 2020/2021 Highest Locational Running Annual Average (LRAA) 12716 NE 36th St (Draper) - 49.98 Range Detected: 3.31 - 49.98 Highest quarterly average (LRAA): 18.20	49.98	YES	By-product of drinking water disinfection
				Range detected: 2.07 - 19.56	29.68 - 54.40		
Bromate[5]	ppb	0	10 (RAA)	Highest quarterly average (RAA) - 8.44 Range detected < 2.00 - 8.25		YES	By-product of disinfection by ozone **Only Hefner Plant uses Ozone**
Precursor Removal							
Total Organic Carbon[6] **(TOC)**			TT = Ratio must be greater than or equal to 1.00 for compliance	Average of monthly ratios: 1.757	0.470	YES	Naturally occurring
				Monthly Ratio = (% TOC removed) divided by (% TOC removal required)			
Disinfection Residual							
Chloramines as Chlorine[7]	ppm	NA	MRDL 4.0	Average readings: 3.67	3.36	YES	Water additive used to control microbes
			Range detected	3.19 - 4.18	2.67 - 3.96		
Microbiological							
Coliform Bacteria	CFUs % positive	0	Presence of Coliform bacteria in <5% of samples	2021 System-wide distribution testing Month having the highest % positive - May May had 2 positive samples in 246 samples - 0.81% 3 positive Coliform results in 2890 samples: 0.104 % occurrence		YES	Naturally present in the environment
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: 100.0%	100.0%	YES	Lime and/or calcium carbonate particles from softening efforts; soil runoff
				Highest single reading: 0.17	0.30		
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 UCMR4 Analytes (2018-2020)[10]							
Manganese	ppb	NA	NA	Average readings: 2.37	< 0.400	NA	Naturally-occurring element; used in steel production, fertilizer, batteries and fireworks; drinking water and waste water treatment chemical; essential nutrient.
				Range detected: < 0.400 - 4.32	< 0.400		
Germanium	ppb	NA	NA	Average readings: 0.130	< 0.300	NA	Naturally-occurring element; a byproduct of zinc ore processing; used in infrared optics, fiber-optic systems, electronics and solar applications.
				Range detected: < 0.300 - 0.519	< 0.300		
Regulated HAA5[11]	ppb	NA	NA	Highest locational average: 7.81	44.96	NA	By-product of drinking water disinfection
				Range detected: 3.29 - 11.16	20.75 - 64.57		
HAA6Br[12]	ppb	NA	NA	Highest locational average: 9.85	9.16	NA	By-product of drinking water disinfection
				Range detected: 3.28 - 14.49	5.75 - 10.29		
HAA9[13]	ppb	NA	NA	Highest locational average: 12.75	52.56	NA	By-product of drinking water disinfection
				Range detected: 4.88 - 17.90	26.29 - 69.50		

Definitions & Abbreviations

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.
ODEQ – Oklahoma Department of Environmental Quality
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

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 2021 at each plant was below the MCL and considered a safe level.

> ***Draper*** – Highest single reading = 0.85 ppm. Average fluoride concentration for 2021 = 0.68 ppm
> ***Hefner*** – Highest single reading = 0.92 ppm. Average fluoride concentration for 2021 = 0.64 ppm

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 US 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.

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. UCMR4: 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).

The fourth UCMR was published in 2016 and required monitoring between 2018 and 2020.

11. Regulated HAA5: Haloacetic Acids – Were included in the program to gain a better understanding of co-occurrence with currently unregulated disinfection byproducts. HAA5 includes dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, trichloroacetic acid.

12. HAA6Br: includes bromochloroacetic acid, bromodichloroacetic acid, dibromoacetic acid, dibromochloroacetic acid, monobromoacetic acid, tribromoacetic acid.

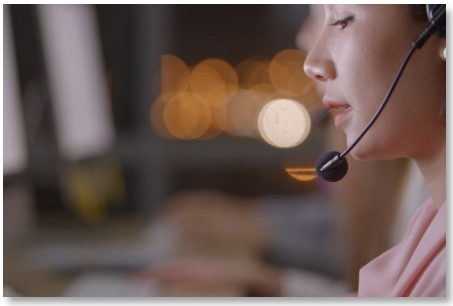
13. HAA9: includes bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, tribromoacetic acid, trichloroacetic acid.

Oklahoma City Water Utilities Trust

Our Mission

We are committed to providing water, wastewater, and trash collection services throughout Central Oklahoma to safeguard public health and the environment, support public safety, and enable economic prosperity.

About the Trust



About the Trust

The Oklahoma City Water Utilities Trust (OCWUT) oversees and approves policy for water, wastewater and trash collection services for residents and customers of the City of Oklahoma City. The public is welcome to attend OCWUT meetings, which are held two times monthly at 2 p.m. inside City Council Chambers located inside City Hall at 210 North Walker Ave.

Live web streams of the meetings are available to watch on the City's youtube channel @cityofokc. Meeting agendas, minutes and a full meeting schedule are available on the City of Oklahoma City website, okc.gov.

Trust Members

James D. Couch, Chair, Independent Trustee
Mark K. Stonecipher, Vice Chair, Surrogate Trustee
Sharon Voorhees, Independent Trustee
Todd Stone, Council Trustee
David Holt, Mayor Trustee
Craig Freeman, City Manager Trustee
Chris Browning, General Manager
Amy K. Simpson, Secretary

Contact Us

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

Customer Service
For account access and information, visit okcutilities.com, or call (405) 297-2833. The okcutilities app is available 24/7. Customer Service Center hours are M-F, 8 a.m.-5 p.m.

Water Quality Questions:

For questions regarding water quality, call (405) 297-3056.

Use Water Wisely

Save water AND money on your next bill with these simple tips:

- Fix leaky toilets and faucets.
- Turn off the water when brushing your teeth.
- Use a bucket and sponge to save water while washing your car.
- Plant native and adapted plants in your landscape.
- Perform a sprinkler check-up to make sure you aren't wasting water or have undetected breaks.
- Top your garden with mulch to help keep the soil moist.

For more water-saving information, and to sign-up for our Water Conservation emails and workshops, visit squeezeeverydrop.com.

SqueezeEveryDrop.com