2021

CITY OF OLATHE

Annual Water Quality Report

As the Environmental Services Manager for the City of Olathe, I am proud to bring you the 2021 Consumer Confidence Report for drinking water quality that covers the 2020 calendar year!

In 2020, the City of Olathe treated 4.5 billion gallons of drinking water for an average daily demand of 12.4 million gallons per day. After production and treatment, our certified laboratory staff performs 90,000 tests to ensure quality before it is pumped out to Olathe homes and businesses for use.

Staff continues to deliver the same exceptional results, year after year, meeting or exceeding all Federal and State drinking water standards. The information shared in this report showcases our transparency as a utility and guarantees the quality and safety of the drinking water produced.

2020 certainly brought its challenges with the COVID-19 pandemic. As a utility we worked diligently to ensure that high-quality drinking water was always available to residents and businesses. The City has a staff of 16 operators that span across five shifts to run the Olathe Water Treatment Plant 24 hours a day, 365 days per year. To protect these critical workers from the spread of COVID-19, staff had to be innovative throughout the year in addition to the mask mandate. All vendors were required to take their temperature prior to interacting with employees. Staff were designated to specific areas of the treatment plant to maintain social distancing. Most communication was conducted via a telephone or two-way radio to minimize face to face contact. Spaces that were shared were disinfected between each shift, three times a day. Shared common spaces were disinfected twice a week to prevent spread from weekday staff to weekend staff. These protocols were critical to protecting the City's water supply during this unprecedented time.

As we enter 2021, Olathe Environmental Services is looking to the future. New requirements were recently published by the Environmental Protection Agency (EPA) on Lead & Copper for drinking water. These requirements currently go into effect in 2024 and will require a rigorous inventory of the service lines to customer homes. The new rule will also require that all schools and childcare facilities are tested for lead & copper levels in drinking water over a five-year period. In 2021, the City hired an engineering firm to complete a proactive review of Olathe water quality and ensure that there is optimal water chemistry in place to prevent corrosion of lead or copper into the drinking water supply. The City embraces these challenges and looks forward to ensuring compliance with this rule that will protect public health.

At the City of Olathe, we are passionate about our responsibility to safeguard the public with our water treatment and are diligent stewards with our rate payer's money to do this as economically as possible. We hope that the information that you find in this Water Quality Report gives you confidence that is the case.

If you should have any questions about the content of this report or about the water quality at your home or place of business, please contact staff through OlatheConnect or Customer Service at 913-971-9311.

John Gilroy, P.E.
Environmental Services Division Manager

Safe Drinking Water Top Priority

The City of Olathe produces safe, quality drinking water, meeting or exceeding all state and federal health. The City conducts more than 90,000 tests each year to ensure the health and safety of our water supply. During the 2020 calendar year, the City of Olathe had no drinking water regulation violations.

Drinking Water and your Health

Special Health Requirements

- Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those undergoing chemotherapy or those who have undergone organ transplants, or people living with HIV/AIDS or other immune disorders, some elderly, and infants can be at particular risk for infections. If you fall in one of these categories, seek advice about drinking water from your health care provider.

COVID-19 Virus Related to Drinking Water

- COVID-19 has not been detected in drinking water. The City's conventional water treatment methods using filtration and disinfection systems would remove any traces of the virus before it reaches consumers.
- The Environmental Protection Agency (EPA) has stated that presence of the COVID-19 virus has not been detected in drinking water supplies and based on current evidence the risk to water supplies is low. Additionally, according to the Center of Disease Control (CDC), COVID-19 is mainly spread between people who are in close contact with one another.

Lead and Copper Rule Sampling Update

- Under the Lead and Copper Rule, the City of Olathe tests for lead and copper concentrations in drinking water at 50 residences across the water system every three years. Volunteer residents take a water sample from a kitchen or bathroom tap after the water has been left undisturbed in the pipes overnight. The City's Environmental Lab then runs tests on the sample to determine the concentrations of lead and copper in the water and provides the results to the resident.
- 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. Your water system is responsible for providing high quality drinking water but cannot control the variety of materials used your 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 two 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. Please contact the City of Olathe at 913-971-9311 or through OlatheKS.org/OlatheConnect for testing information. Additional 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 EPA.gov/SafeWater/Lead.
- The City of Olathe completed the last round of testing in July 2020.

Fluoride in Drinking Water

- State and Federal standards limit fluoride to a maximum of 4.0 mg/L (parts per million) in drinking water. Approximately 0.2-0.4 mg/L of fluoride is naturally occurring in the Kansas City area. Where the fluoride level is naturally low, fluoride is added to water during treatment to prevent cavities and bone fractures. Fluoride has been effectively utilized for prevention of cavities in the United States for the past 65 years and has been recognized by the U.S. Center for Disease Control (CDC) as one of the ten greatest public health achievements of the 20th century. Since that time, child cavity rates have been reduced by 20-40% where fluoridation has been implemented. A person's income level or ability to receive routine dental care is not a barrier to receiving its health benefits. For every dollar invested in fluoridation, it saves approximately 38 dollars in dental care according to the CDC. http://www.cdc.gov/fluoridation/. The fluoridation of drinking water is endorsed by the American Academy of Pediatrics (AAP), American Dental Association (ADA), the American Medical Association (AMA), the American Public Health Association (APHA), U.S. Centers for Disease Control (CDC), US. Surgeon General, World Health Organization (WHO) and many other entities.
- City of Olathe maintains a target level of 0.7 mg/L, as recommended by U.S. Department of Health and Human Services (HHS). The amount of fluoride is strictly regulated and continuously monitored to ensure compliance with state and federal standards.

Unregulated Contaminant Monitoring Rule (UCMR)

- Every five years, the U.S. Environmental Protection Agency (EPA) implements the Unregulated Contaminant Monitoring Rule (UCMR). The purpose of UCMR is to collect data from across the country on contaminants that may be present in drinking water. EPA uses this data to decide if the contaminants occur at frequencies and concentrations high enough to be regulated in the future.
- The fourth round of UCMR, UCMR 4, requires monitoring for 30 contaminants between 2018 and 2020. The contaminants include 2 metals, 9 pesticides, 3 alcohols, 3 semi-volatiles, 3 brominated haloacetic-acid groups, 2 disinfection by-product indicators, and, for surface water systems, 10 cyanotoxins. These contaminants are not regulated under the Safe Drinking Water Act.
- More information is available at epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule.
- The City of Olathe fulfilled their responsibility to comply to this rule and concluded sampling at the end of 2020.

Sources of Drinking Water

Olathe's untreated source water is obtained from wells located along the Kansas River near DeSoto. In 2020, the City of Olathe treated 4.5 billion gallons of water obtained from wells located along the Kansas River aquifer. As surface water filters through the ground, it dissolves naturally occurring minerals. As a result, environmental events such as flooding have less of an impact on Olathe water quality.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water possesses a health risk. The U.S. Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration (FDA) regulations establish limits for contaminations in bottled water which must provide the same protection for public health. For more information about these contaminants and potential health effects, contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or EPA.Gov/SafeWater.

Contaminants that may be present in source water prior to treatment 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 results from urban 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 bi-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants** – which can be naturally occurring or be the result of oil and gas production and mining activities.

Olathe Water Sets the Standard in Quality

Consumer Satisfaction

- Olathe citizens are surveyed quarterly to assess the level of citizen satisfaction with City services. Our customers consistently rate their overall quality of water services including the taste of water and water pressure above the Kansas City Metro average as well as the national average.

Taste of Water
2020 Olathe Average – 88%
KC Region Average – 75%
National Average – 67%

Water Pressure
2020 Olathe Average – 84%
KC Region Average – 78%
National Average – 72%

Overall Quality of Water Service
2020 Olathe Average – 88%
KC Region Average – 76%
National Average – 69%

Unregulated Parameters

Unregulated parameters are monitored in the interest of the customer, and to assist regulators in developing future regulations.

Parameter	Units	Maximum Recommended Level	Olathe Result [1]
Aluminum	PPB	200	<10
Alkalinity	PPM	N/A	100
Calcium	PPM	N/A	29
Chloride	PPM	250	64
Iron	PPM	0.3	<0.01
Manganese	PPM	0.05	<0.001
Magnesium	PPM	N/A	9.4
pH	SU	8.5	8.5
Potassium	PPM	N/A	6.8
Phosphorus	PPM	N/A	0.11
Nickel	PPM	NA	<0.001
Silver	PPM	0.1	<0.001
Silica	PPM	50	11
Sodium	PPM	100	52
Conductivity	µmhos/cm	1500	530
Radon	PCi/L	300	<50
Sulfate	PPM	250	95
Total Dissolved	PPM	500	340
Total Hardness	PPM	400	170
Zinc	PPM	5.0	<0.005

[1] Measured at Olathe Water Treatment Plant.

Abbreviations and Definitions

AL = Action Level
The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

CFU = Colony forming units/100ml.

D.S. = Distribution System

LF = Linear Feet.

M.F./L - Million Fibers/liter.

MCL = Maximum Contaminant Level
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.

MCLG = Maximum Contaminant Level Goal
The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG allows for a margin of safety.

NA = Not applicable.

NTU = Nephelometric Turbidity Units
It is a measure of cloudiness of the water.

ND = Not detected.

PCi/l = Picocuries per liter.

PPM = parts per million.

PPB = parts per billion, or micrograms per liter (ug/l)

SU = Standard Unit.

TT = Treatment Technique
Required process intended to reduce the level of a contaminant in drinking water.

TOC - Total organic carbon.

µMHO/ cm = Micromhos per centimeter

WTP = Water Treatment Plant.

Water Quality Summary

The EPA requires monitoring of over 100 drinking water contaminants. Listed below are only certain contaminants. Many are undetected in Olathe's drinking water. The summary shows monitoring results from January 1 to December 31, 2020.

Regulated Parameters

INORGANIC COMPOUNDS							
Parameter	Units	MCL	MCLG	Olathe Result			Met Standard
				WTP	D.S.	Range	
Antimony	PPB	6	6	<1	N/A	<1	√
Arsenic	PPB	10	0	1.5	N/A	1.5	√
Barium	PPM	2	2	0.055	N/A	0.055	√
Beryllium	PPB	4	4	<1	N/A	<1	√
Cadmium	PPB	5	5	<1	N/A	<1	√
Chromium	PPB	100	100	2.5	N/A	2.5	√
Copper	PPM	AL= 1.3	1.3	<0.001	0.052	N/A	√
Fluoride	PPM	4	4	0.79	N/A	0.74 -0.86	√
Lead	PPB	AL=15	0	<1	2.5	N/A	√
Mercury	PPB	2	2	<0.5	N/A	<0.5	√
Nitrate	PPM	10	10	0.60	N/A	0.60	√
Selenium	PPB	50	50	1.5	N/A	1.5	√
Thallium	PPB	0.5	2	<1	N/A	<1	√

SYNTHETIC ORGANIC COMPOUNDS							
Parameter	Units	MCL	MCLG	Olathe Result			Met Standard
				WTP	D.S.	Range	
Atrazine	PPB	3	3	0.30	N/A	0.30	√
Metolachlor	PPB	2	0	0.38	N/A	0.38	√

DISINFECTION BYPRODUCTS							
Parameter	Units	MCL	MCLG	Olathe Result			Met Standard
				WTP	D.S.	Range	
Chlorine	PPM	4	N/A	N/A	2.5	2.3-2.6	√
TOC Removal Ratio[1]	N/A	>1.0	TT	2.45	NS	2.27-2.57	√
Total Trihalomethanes	PPB	80	N/A	N/A	51.1	39-54	√
Haloacetic Acids	PPB	60	N/A	N/A	12.8	1 – 13.5	√

[1] Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased cancer risk.

Regulated Parameters Continued

MICROBIOLOGICAL CONTAMINANTS							
Parameters	Units	MCL	MCLG	Olathe Result			Met Standard
				WTP	D.S.	Range	
Turbidity	NTU	TT	N/A	<0.10	N/A	99.7% - 99.9% below 0.3NTU	√
Total Coliform	%	<0.05/mo.	0	N/A	0.015	0 – 0.015	√

RADIOACTIVE CONTAMINANTS							
Parameter	Units	MCL	MCLG	Olathe Result			Met Standard
				WTP	D.S.	Range	
Alpha Emitters	pCi/L	15	0	<3	N/A	N/A	√
Radium – 226	<0.5	5	PCi/L	N/A	N/A	<0.5	√
Radium - 228	<0.5	5	PCi/L	N/A	N/A	<0.5	√
Combined Radium	<0.5	5	PCi/L	N/A	N/A	<0.5	√

Water Treatment Plant Construction Complete

After nearly two and a half years of construction, upgrades to Olathe's Water Treatment Plant are complete. Approximately $17 million of upgrades were accomplished including:

- A new lime feed facility including new storage and feed equipment
- A new chlorine dioxide disinfection facility
- New treatment basin equipment in two basins and repairs to a third basin
- Water storage tank replacement

Olathe Environmental Services is Award Winning

The City of Olathe partnered with Crossland Heavy Contractors, Black & Veatch, and HDR for design and construction of the Water Treatment Plant improvements. The project was selected by the Associated Builders and Contractors Heart of America Chapter as the Best Public Works Environmental Project over $10 Million Dollars in 2020. The collaborative delivery of this complex project has resulted in renewed critical plant infrastructure, measurable water quality improvements, and reliable operation for Olathe's customers into the future.

In 2020, the National Association of Clean Water Agency (NACWA) presented both City of Olathe Wastewater Treatment Facilities with Gold Peak Performance Awards for 100% regulatory compliance. The Cedar Creek Wastewater Facility has received this recognition two years in a row. The Harold Street Wastewater Facility has received this recognition four years in a row.

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