THE WATER WE DRINK

2025 ANNUAL WATER QUALITY REPORT

FOR

CITY OF OSAGE

GARY SCHNEIDER, SUPERINTENDENT

641-732-3709

TO OUR CUSTOMERS

We are proud to provide safe, dependable water to you 24 hours a day, seven days a week, 365 days a year. As our customer, you have a right to fully understand the efforts we make to assure that your water is safe to drink. We are committed to ensuring the quality of your drinking water and its compliance with government standards.

This Annual Water Quality Report provides detailed analytical testing results from samples of your area's water supply and compares your tap water to federal and state standards. The source of our water is groundwater drawn from the Devonian and Middle Ordovician (Galena, Decorah, St. Peter) aquifers made up of St. Peter Sandstone and Galena Dolomite formations. The Devonian and Ordovician aquifers were determined to be susceptible to contamination because the characteristics of the aquifers and overlying materials allow surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application to move through the aquifers fairly quickly. The City wells will be most susceptible to activities such as dry cleaners, gas stations, industrial sites, and municipal wastewater discharges. Well #2 was drilled in 1912 to a depth of 810 feet. It was later filled in to a depth of 676 feet. The well is equipped with a submersible pump rated at 400 gpm. Well #4 was drilled in 1953 to a depth of 790 feet. It was later filled in to a depth of 710 feet. Well #4 is equipped with a submersible pump and can pump approximately 400 gpm. Well #5 was drilled in 1964 to a depth of 650 feet. This well is equipped with a submersible pump and can pump approximately 750 gpm. In 2021, Well #6 was drilled to a depth of 633 feet. This well is equipped with a 100hp submersible pump and can pump approximately 725 gpm. Each well is equipped with a fluoride addition system. Chlorination was added in November, 2002 to all wells. Two elevated storage tanks with a capacity of 500,000 gallons each are available for water storage. In 2022, a third water tower was added, with a capacity of 750,000 gallons. A polyphosphate to control corrosion was added to all 4 wells in 2023.

WATER QUALITY DATA

Most of the data presented in the following table is from testing done January 1 to December 31, 2025. The State requires us to monitor for certain contaminants less than once a year because the concentrations of these contaminants are not expected to vary significantly from year to year. Our system monitors for several unregulated contaminants as required by our State operation permit.

SOURCE WATER ASSESSMENT INFORMATION

This water supply obtains its water from the dolomite and limestone of the Devonian-Ordovician aquifer. The Devonian-Ordovician aquifer was determined to be susceptible to contamination because the characteristics of the aquifer and overlying materials provide some protection from contaminants from the land surface. The Devonian-Ordovician wells will be susceptible to surface contaminants such as leaking underground storage tanks, contaminant spills, and excess fertilizer application. A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources, and is available from the Water Operator at 641-732-3709.

DEFINITIONS

- 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.*
- *ppb -- parts per billion.*
- *ppm -- parts per million.*
- *ppt – parts per trillion*
- *pCi/L – picocuries per liter*
- *N/A – Not applicable*
- *ND -- Not detected*
- *LRAA – Locational Running Annual Average*
- *RAA – Running Annual Average*
- Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.
- Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- 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.
- 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.
- SGL – Single Sample Result
- NTU – Nephelometric Turbidity Units
- RTCR – Revised Total Coliform Rule

Our water quality testing shows the following results:

CONTAMINANT	MCLG	MCL	DETECTED LEVEL	DATE SAMPLED	RANGE OF DETECTION	VIOLATION	SOURCE
Lead (ppb) 90th Percentile	0	AL=15	11.40	2024	ND-26 1 sample(s) Exceeded AL	No	Corrosion of household plumbing systems; erosion of natural deposits
Chlorine (ppm) (RAA)	MRDLG =4.0	MRDL=4.0	0.98	12/31/2025	0.84-1.04	No	Water additive used to control microbes
Fluoride (ppm) Well #2 Well #4 Well #5 Well #6 (SGL)	 4 4 4 4	 4 4 4 4	 0.89 0.96 1.01 0.56	 12/1/2025	 0.66-1.25 0.56-1.76 0.78-1.29 0.40-0.72	 No No No No	Water additive which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories
Nitrate [as N] (ppm) Well #2 Well #4 Well #5 Well #6 (SGL)	 10 10 10 10	 10 10 10 10	 2.700 8.300 <1.000 7.100	 1/01/25 - 12/31/25	 2.700 7.400-8.300 <1.000 5.200-7.100	 No No No No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (ppm) Well #2 Well #4 Well #5 Well #6 (SGL)	 N/A N/A N/A N/A	 N/A N/A N/A N/A	 19.6 5.26 9.25 13.5	 8/29/2023 8/29/2023 8/29/2023 11/20/24	 19.6 5.26 9.25 13.5	 No No No No	Erosion of natural deposits; Added to water during treatment process
Copper (ppm) 90th Percentile	1.3	AL=1.3	0.37	2024	0.0282-0.735	No	Corrosion of household plumbing systems; Erosion of natural deposits
TTHM (ppb) [Total trihalomethanes] (LRAA)	N/A	80	15.00	9/30/2025	15.0-15.0	No	By-products of drinking water disinfection
Haloacetic Acids (HAA5) (ppb) (LRAA)	N/A	60	10.00	9/30/2024	10.00-10.00	No	By-products of drinking water disinfection
Gross Alpha, inc (pCi/L) Well #4 (SGL)	 0	 15	 1.7	 3/10/2021	 1.7	 No	Erosion of natural deposits
Barium (ppm) Well #2 Well #4 Well #5 (SGL)	 2 2 2	 2 2 2	 0.0957 0.074 0.0938	 9/8/2020 9/8/2020 9/8/2020	 0.0957 0.074 0.0938	 No No No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Combined Radium Well #4 Well #5 (pCi/L) (SGL)	 0 0	 5 5	 1 1.52	 3/10/2021 3/13/2024	 1 1.52	 No No	Erosion of natural deposits
Selenium (ppb) Well #2 Well #4 (SGL)	 50 50	 50 50	 5.50 4.50	 9/8/2020 9/8/2020	 5.50 4.50	 No No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.

PFAS Information

In 2024 our water system exceeded an EPA drinking water lifetime health advisory for the PFAS. Results and health effect language are shown below.

PFAS Compound	Date	Our Result (ppt)	Health Advisory Level (ppt)
PFAS	2025	5.8 (4.3-5.8)	0.020

PFAS are a group of man-made chemicals that have been in use since the 1940's. PFAS are (or have been) found in a wide variety of consumer products and as an ingredient in firefighting foam. PFAS manufacturing and processing facilities, airports, and military installments are some of the contributors of PFAS releases into the air, soil, and water. Because of their widespread use, most people have been exposed to PFAS and there is evidence that exposure to certain PFAS may lead to adverse health effects.

What are the health effects of exposure to PFAS?
Exposure to PFAS may result in a wide range of adverse health outcomes, including:

- developmental effects including to fetuses after exposure during pregnancy or postnatal development (e.g., low birth weight, accelerated puberty, skeletal variations, development of the immune system);
- Cancer (e.g., testicular, kidney);
- Liver effects (e.g., decreased antibody response to vaccination, decreased immune response immunity);
- Immune effects (e.g. decreased antibody response to vaccination, decreased immune response immunity);
- Thyroid effects and other effects (e.g., cholesterol changes).

PFAS was found in Well #2 in 2023. This well is currently used sparingly, only to do further testing. We are currently testing quarterly for PFAS. The City is weighing options for how to best proceed in the future for this well.

Note: Contaminants with dates indicate results from the most recent testing done in accordance with regulations.

GENERAL 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 posed a health risk. More information about contaminants or 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. 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 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).

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. Our water supply is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formulas, flush your pipes for several minutes. You can do this by running your tap,

taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact OSAGE MUNICIPAL WATER SUPPLY at 641-732-3709. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at https://www.epa.gov/safewater/lead.

Lead tap sampling data can be found in the Iowa Drinking Water Data Portal: https://programs.iowadnr.gov/ioadrinkingwater

Our water supply has completed a service line inventory. Please contact us for information

CONTAMINANT VIOLATIONS - NONE

OTHER VIOLATIONS - None.

ADDITIONAL HEALTH INFORMATION

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

CONTACT INFORMATION

For questions regarding this information, please contact Gary Schneider, water superintendent at 641-732-3709 during City Hall business hours: 8:00 a.m.-12:00, 1:00-5:00 p.m.

Decisions regarding the water system are made at the City Council meetings held on the first and third Mondays of each month, except July, August and December, when they meet only the first Monday of the month. Meetings are held at 5:30 p.m. All meetings are held in Council Chambers, City Hall, and are open to the public.