ANNUAL

Water Quality Report

WATER TESTING PERFORMED IN 2023

Where Our Water Comes From

The Town of Queen Creek's drinking water originates from groundwater sources. Groundwater is pumped from a combination of the 30 active drinking water wells located throughout the water distribution system. Water is either pumped directly into the distribution system or pumped to fill a water storage tank for future use. A small amount of chlorine disinfection is applied at entry points to the distribution system in order to maintain federal drinking water standards.

PRODUCED BY THE TOWN OF QUEEN CREEK

Our Commitment to Service

The Town of Queen Creek Water Division is proud to present the 2023 Annual Water Quality Report demonstrating our commitment to providing exceptional water quality. We are honored to serve the needs of our community by meeting the challenges of source water protection, water conservation, and community outreach and education.

The Water Division continually strives to improve water system functionality and infrastructure lifespan. Improvements to over six wells were completed. Over 11 miles of new waterlines were constructed with an additional 22 miles currently in the design and installation process, allowing the water system to operate more efficiently.

In the first half of 2024, construction has been completed on the Barney Farms three-million-gallon reservoir. Another two-million-gallon reservoir at Harvest is currently under construction. These improvements, along with three new wells that have been brought online this year, allow for greater system reliability and resiliency.

Water loss remains low with dedication from our water meters team continually testing and replacing equipment for accuracy. Our geographic information systems and technology staff continue to develop efficiency improvements through technological changes, allowing staffing to access information remotely and enabling faster responses, work order completions and emergency mitigation. A new billing system was implemented in 2023 to improve customer billing and scheduling.

Water conservation remains a top priority for our Town. We offer a variety of educational opportunities related to conservation for residents including in-person water conservation workshops, classroom presentations for youth about the water cycle and water conservation practices and resources online. The Town also installed interactive water conservation floor graphics at the Queen Creek Library in conjunction with the Library's summer reading program. This design encouraged our young residents to jump, skip and hop their way to learning about water conservation. We continue to grow our homeowners association relationships and monitoring programs with Waterfluence, working to optimize water use with the Town's largest water users.

The Town of Queen Creek continues to be an exceptional place to live and grow. The Water Division is committed to providing reliable high-quality water and diversifying the Town's water supply, reducing reliance on groundwater. We excitingly embrace the growth the Town of Queen Creek is experiencing. We greatly appreciate the partnership we have cultivated with the community and are honored to serve you in the future.

– Marc Skocypec, Utilities Director, Town of Queen Creek

Substances That Could be in Water

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.

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. 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 byproducts 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.

More information about contaminants and potential health effects can be obtained online at **EPA.gov/Safewater** or by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Because tap water is highly regulated by state and federal laws, water system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified.

Our licensed water professionals are knowledgeable on a wide range of subjects, including mathematics, biology, chemistry, and physics.

Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to produce and store water.
- Monitoring and inspecting machinery, meters, gauges, and operating conditions.
- Conducting tests and inspections on water and evaluating the results.
- Maintaining optimal water chemistry.
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels.
- Documenting and reporting test results and system operations to regulatory agencies.
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind every drop.

Water Quality

To ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population.

The Water Division takes thousands of water samples to determine the presence of microbiological and various contaminants. Additionally, the Water Division participates in the Arizona Department of Environmental Quality Monitoring Assistance Program (MAP) to perform regular sampling and testing of all system wells for radioactive, inorganic, volatile organic and synthetic organic contaminants. Efforts to sample and test our water has documented that the Town of Queen Creek water has exceeded all health standards. The table below shows only those contaminants that were detected in the water, many more were tested with no measurable amounts detected. Although all the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

TEST RESULTS

CONTAMINANT	SAMPLE YEAR	VIOLATION	RANGE	AVERAGE	MCL	MCLG	TYPICAL SOURCE
Arsenic (ppb)	2023	No	2.0-2.9	2.52	10	0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2023	No	0.015-0.043	0.028	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/photon emitters mrem/yr	2022	No	4.8	4.8	4	0	Decay of natural and man-made deposits
Chlorine (ppm)	2023	No	0.50-1.59	0.74	4	4	Water additive used to control microbes
Chromium (ppb)	2023	No	ND-3.2	1.76	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium 226 and 228 (pCi/L)	2023	No	ND-0.791	0.30	5	0	Erosion of natural deposits
Dibromochloropropane (ppb)	2023	No	ND-0.041	0.0006	200	0	Runoff/leaching from soil fumigant used used on soybeans, cotton, pineapples, and orchards
Fluoride (ppm)	2023	No	0.15-0.42	0.23	4	4	Erosion of natural deposits; water additive which promotes strong teeth, discharge from fertilizer and aluminum factories
Gross Alpha excluding radon and uranium (pCi/L)	2023	No	ND-3.7	1.61	15	0	Erosion of natural deposits
Haloacetic Acids (ppb)	2023	No	ND-27.2	ND	60	NA	By-product of drinking water disinfection
Iron (ppm)	2021	No	ND	<0.50	NA	NA	Erosion of natural deposits
Magnesium Hardness as CaC03 (ppm)	2021	No	15-71	48.1	NA	NA	Erosion of natural deposits
Nitrate (ppm)	2023	No	0.62-6.93	3.03	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (ppm)	2023	No	41-86	65.11	NA	NA	Erosion of natural deposits
Total Coliform (% positive samples/month)	2023	No	ND-0.36	0.35	5	0	Naturally present in the environment
Total Dissolved Solids (ppm)	2021	No	351-652	500	ND	ND	Naturally present in the environment
Total Hardness as CaC03 (ppm)	2021	No	110-260	206	NA	NA	Naturally present in the environment
Total Trihalomethanes (ppb)	2023	No	0.5-9.0	3.7	80	NA	By-product of drinking water disinfection
Uranium (ppb)	2020	No	1.9	1.9	30	0	Erosion of natural deposits
Zinc (ppm)	2021	No	ND - 0.10	0.009	NA	NA	Erosion of natural deposits

Tap water samples collected for lead and copper analyses from specific community sample sites

CONTAMINANT	YEAR	VIOLATION	NUMBER OVER AL	90TH PERCENTILE	AL	MCLG	TYPICAL SOURCE
Copper (ppm)	2022	No	0	0.15	1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2022	No	0	<0.0050	15	0	Corrosion of household plumbing systems; Erosion of natural deposits

Definitions

AL: Action Level – The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow

LRAA: Locational Running Annual Average – The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs

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. MCLGs allow for a margin of safety

MRDL: Maximum Residual Disinfectant Level – 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

MRDLG: Maximum Residual Disinfectant Level Goal – 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

ND: Not detected – Concentration too low to be detected by laboratory equipment

pCi/L: picocuries per liter – A measure of radioactivity

ppb: parts per billion – One part substance per billion parts (or micrograms per liter)

ppm: parts per million – One part substance per million parts (or milligrams per liter)

Source Water Assessment

In 2002, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment for six groundwater wells used by the Queen Creek Water Company, now known as the Town of Queen Creek Utilities Department. The assessment reviewed adjacent land uses that could pose risks to water sources. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agricultural fields, wastewater treatment plants, and mining activities. Once ADEQ identified the adjacent land uses, the source waters were ranked according to their potential to become contaminated. The result of the assessment for the six wells was low risk from adjacent land use and low risk to source water. For more information or to request a copy of the source water assessment, please contact Nicole Petker at (480) 358-3459 or email Nicole.Petker@QueenCreekAZ.gov.

IMPORTANT **Health Information**

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 for infections. These people should seek advice from their health care provider about drinking water. 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 at (800) 426-4791.

While your drinking water meets EPA standards for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six (6) 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. Visit **Epa.gov** for additional information.

Lead in Home Plumbing

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 Town of Queen Creek is responsible for providing high-quality drinking water, but 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 two minutes before using water for drinking or cooking. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or **EPA.gov/Safewater**.

Conserving Water In QC

Water is a precious natural resource. Please join the Town of Queen Creek and reduce your water use.

TOWN CONSERVATION EFFORTS

- Partners with Water - Use It Wisely to provide regional water conservation outreach campaigns.
- Contracts with Waterfluence to provide water budgets and leak notifications for HOAs and schools in our water service area.
- Offers a residential water budget calculator available at **QueenCreekAZ.gov/WaterCalculator**.
- Offers monthly water-use metrics for water customers through the online MyUtilities portal.
- And much more — check out all of our resources at **QueenCreekAZ.gov/ReduceTheUse**.

WATER CONSERVATION EDUCATION IN THE SCHOOLS

The Town of Queen Creek is committed to creating a sustainable future for its residents, and innovative, educational outreach to schools in our water service area.

The Water Cycle Sing-a-long with H2O is an engaging musical presentation that teaches the water cycle and water conservation through song and dance (1st-3rd Grade).

Our Water, Our Future is a classroom water education program addressing the water cycle, Queen Creek's water supply and water conservation (4th-5th Grade).

REDUCE THE USE
QC WATER CONSERVATION

WATER USE IT WISELY

SIX TIPS TO REDUCE YOUR USE

1. **Water your landscape efficiently**

   Learning how to water your landscape is crucial. Up to 70% of water use is outdoors. Find out how much water your landscape actually needs to thrive in our unique desert environment.
   QueenCreekAZ.gov/WaterGuides

2. **Is your water use increasing, and you don't know why?**

   Learn how to read your water meter and take charge!
   QueenCreekAZ.gov/WaterAudit

3. **Attend a FREE landscape workshop**

   Learn how to water your landscape efficiently, design and install a drip irrigation system, maintain your irrigation system, use proper pruning techniques, plant low-water-use plants, and much more.
   QueenCreekAZ.gov/WaterSmart

4. **Hire a Smartscape-trained landscape professional**

   A Smartscape landscaper is trained in planning, planting and caring for landscapes in our desert environment.
   Smartscape.org/Directory

5. **Do you have a swimming pool?**

   A standard (16 ft. X 36 ft.) uncovered pool loses four to six feet yearly to evaporation, mainly in the summer. Added to water lost during refilling and backwashing, that's roughly the equivalent of filling the entire pool annually — and draining a pool for cleaning doubles this amount! Find several ways to reduce water loss from pools and spas.
   WaterUseitWisely.com/Swimming-Pools

6. **Plant like you live in the desert**

   Xeriscaping your yard does not mean using only rocks and cacti. Create an oasis using low-water-use plants full of color and texture. Certain plants encourage visits from hummingbirds and butterflies as well. Learn more in our Water-Smart Workshop archives.
   QueenCreekAZ.gov/WaterSmart

Benefits of Chlorination

Disinfection, a chemical process used to control disease-causing microorganisms by killing or inactivating them, is unquestionably the most important step in drinking water treatment. By far the most common method of disinfection in North America is chlorination. Before communities began routinely treating drinking water with chlorine (starting with Chicago and Jersey City in 1908), cholera, typhoid fever, dysentery, and hepatitis A killed thousands of U.S. residents annually. Drinking water chlorination and filtration have helped to virtually eliminate these diseases in the U.S. Significant strides in public health are directly linked to the adoption of drinking water chlorination. In fact, the filtration of drinking water plus the use of chlorine is probably the most significant public health advancement in human history.

HOW CHLORINATION HELPS:

Potent Germicide Reduction in the level of many disease-causing microorganisms in drinking water to almost immeasurable levels.

Taste and Odor Reduction of many disagreeable tastes and odors like foul-smelling algae secretions, sulfides, and odors from decaying vegetation.

Biological Growth Elimination of slime bacteria, molds, and algae that commonly grow in water supply reservoirs, on the walls of water mains, and in storage tanks.

Chemical Removal of hydrogen sulfide (which has a rotten egg odor), ammonia, and other nitrogenous compounds that have unpleasant tastes and hinder disinfection. It also helps to remove iron and manganese from raw water.

QUESTIONS?

For more information about this report, or to ask drinking water related questions, please contact Nicole Petker, Water Resource Analyst, at **(480) 358-3459** or **Nicole.Petker@QueenCreekAZ.gov**.

Residents may provide public comment to the Queen Creek Town Council regarding water quality at the regularly scheduled Town Council meetings, usually held on the first and third Wednesdays of each month. The Town Council meeting calendar can be viewed online at **QueenCreekAZ.gov/Calendar**.