WATER QUALITY REPORT

Garden City Water System

2019

GWR
Global Water Resources

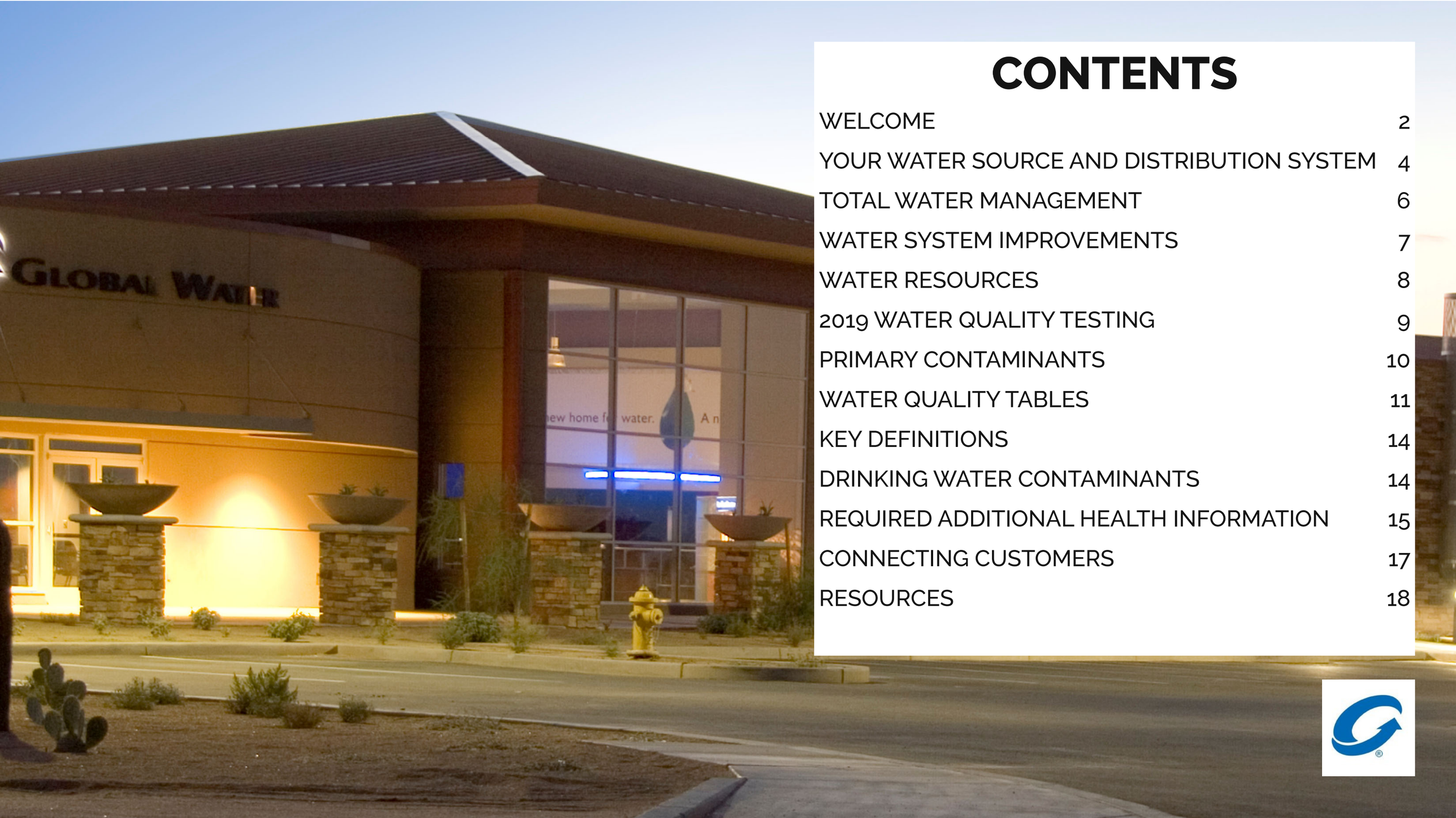
WELCOME

We are pleased to present the 2019 annual water quality report, also known as the Consumer Confidence Report. All drinking water served by Global Water Resources (GWR) meets or exceeds federal, state and county drinking water regulations. At Global Water we take the safety of the water we provide very seriously to ensure our valued customers receive safe, reliable and clean drinking water every time you turn on your faucet. This report provides a summary of the many water quality tests and measurements taken in 2019 to ensure the safety of the water we serve.

Since Global Water was founded in 2003, we have used our Total Water Management approach to manage the entire water cycle to conserve water resources for the communities we serve. Global Water has saved over 8.4 billion gallons of water by using recycled water instead of groundwater for numerous outdoor uses. We also believe in giving our customers tools to be active participants in water conservation. Please go to **www.gwresources.com/access-your-account** to sign-up for free conservation resources. At Global Water, we're making the necessary investments today to ensure we have the water resources needed for generations to come.

Please visit us at **www.gwresources.com** to learn more or contact us at 866-940-1102 or 623-289-2090 with questions or comments.

Jon Corwin
Vice President and General Manager



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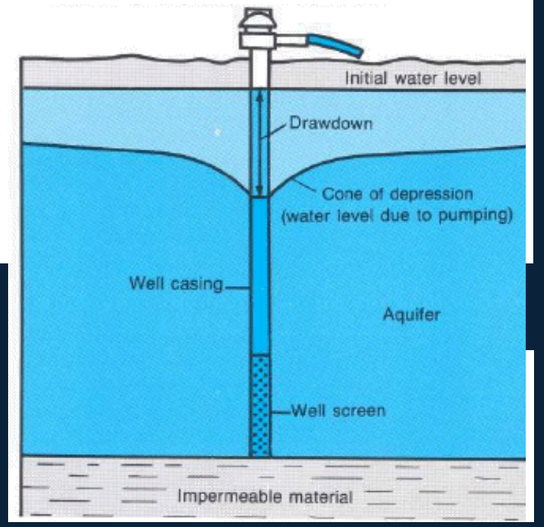
YOUR WATER SOURCE AND DISTRIBUTION SYSTEM

The water source for Garden City Water System is groundwater. Currently, Garden City uses one well. Groundwater from this well is pumped into two storage tanks, also called reservoirs. Reservoirs are also used for continuous supply and to guarantee adequate water flows. Water distribution is achieved with one booster station and water mains ranging in size from 2" to 6". Water mains distribute potable water at pressures between 45 to 55 pounds per square inch. Garden City uses sodium hypochlorite for disinfection of the water. Groundwater in Arizona is low in Total Organic Carbon (TOC). When sodium hypochlorite is added to water, it reacts with TOC to form disinfection byproducts. Due to low TOC content, these byproducts are low in potable water that originates from groundwater.

We monitor drinking water from the source, from the entry point into the distribution system, and in some cases from the taps of in¬dividual homes. Detailed water quality data are listed under WATER QUALITY TABLES in this report (page 11).



YOUR WATER SOURCE AND DISTRIBUTION SYSTEM

Backflow and Cross-Connection:

To protect consumers from contamination caused by backflow through unprotected cross-connections, GWR requires installation and periodic testing of backflow prevention assemblies. In drinking water pipes, whether in a commercial building or in a family residence, water pressure can suddenly drop for several reasons. A drop in water pressure can occur during high water use in homes or in the distribution system (firefighting, water main break etc.). The type of backflow prevention assembly required is determined based on the hazards present at a service connection. The GWR backflow/Cross Connection Control Program assures that these assemblies are tested by a certified tester and electronic reports are maintained as needed.

Source Water Assessment (SWA):

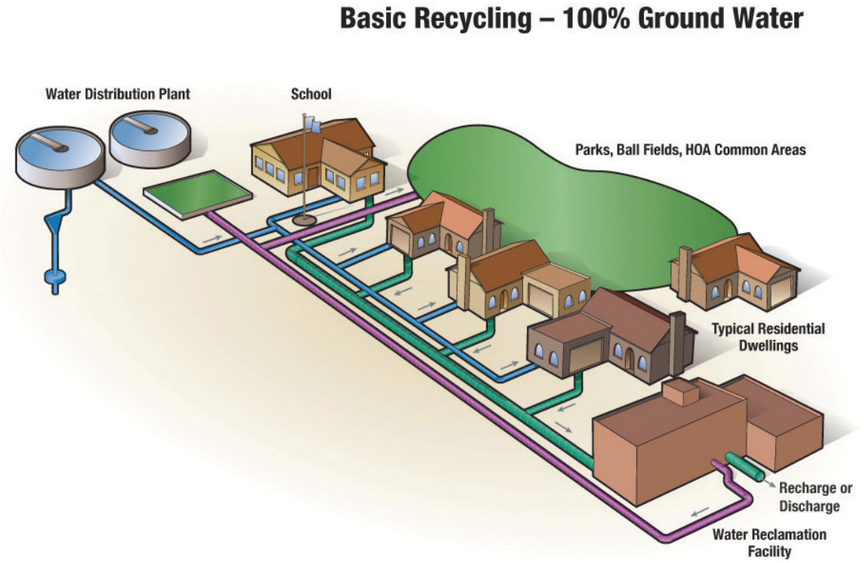
The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. In 2004 the Arizona Department of Environmental Quality (ADEQ) completed a Source Water Assessment for the well-used by the Garden City system. The assessment reviewed the hydrogeologic conditions and adjacent land uses that may pose a potential risk to the water sources. These risks include, but are not limited to, gas stations, landfills, dry-cleaners, agriculture, wastewater treatment plants, and mining activities. Once ADEQ identified the adjacent land uses, they were ranked as to their potential to affect the water sources. The assessment determined that the wells had a low risk of contamination due to adjacent land use. The water is currently protected by well construction and system operations and management. The complete assessment is available for inspection at ADEQ.

TOTAL WATER MANAGEMENT

Global Water is a water resource management company. We provide water, wastewater and recycled water services.

Recycled water is what we produce when we treat and purify wastewater. We distribute recycled water throughout the communities we serve in its own, separate system of pipes. The community uses recycled water for a variety of outdoor uses.

We call our approach "Total Water Management." We manage the entire water cycle, conserving water by using the right water for the right use. Total Water Management protects water supplies in areas with high growth and water scarcity.



Working on Water Solutions for the Next 100 Years

News headlines in Arizona have had a steady stream of water related topics in recent months. Global Water is a water resource company, and we've been working since our inception for the inevitability of water shortages in the desert. Global Water has water availability and the water rights that will allow development in the City of Maricopa to continue for the foreseeable future. However, as a region, challenges still exist. Global Water led a regional effort to obtain a $1.36 million-dollar grant from the Bureau of Reclamation to conduct a three-year study of water resources in Pinal County. The study is now underway and is focusing on water supply, demand and future water solutions in Pinal County. These efforts will help with water solutions in the region for many generations to come.

WATER SYSTEM IMPROVEMENTS

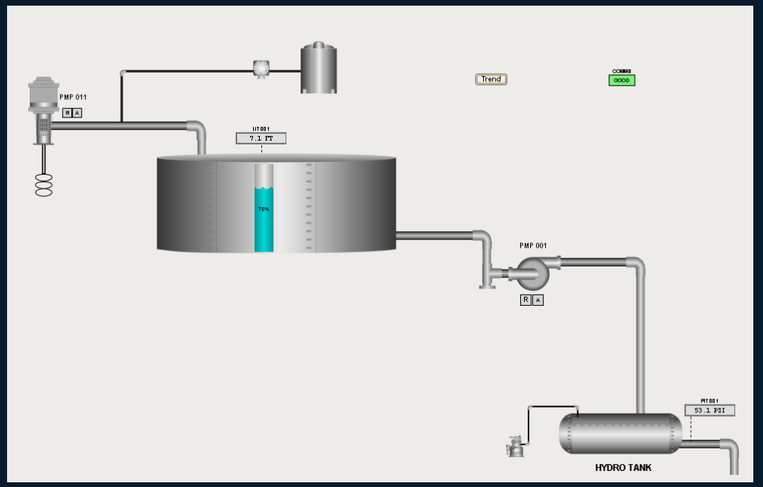
The Garden City system improves its water system by consistently analyzing and evaluating the performance of the system's water quality and assets.

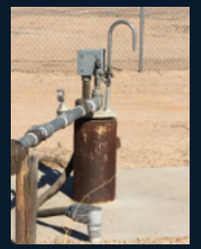
The Operations and Engineering team analyze the water system's performance by completing physical inspections and reviewing automated control system data associated with production, consumption, flow, pressure, and water quality.

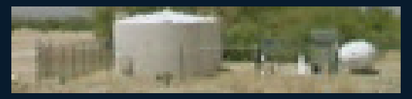
The system recently completed capital improvements to its water system which included the completion of a software upgrade to the Supervisory Control and Data Acquisition (SCADA) system.

The improvements reduce operational costs and improve operator access and control 24 hours a day, seven days a week.

This upgrade allows the operations and engineering team to produce detailed analytical reports related to groundwater production, consumption, flow, pressure, and water quality.







WATER RESOURCES

Overview

Global Water was founded with water scarcity in mind. Water is a very important resource in the desert southwest and we must be diligent. To that end, Global Water has taken many steps to ensure the sustainability of our utilities. Total Water Management is the bedrock to our approach to water scarcity, and it is described further in the "Total Water Management" section on page 6.

Conservation

We at Global Water also have a comprehensive conservation program to assist our customers in saving water. Important to the program is our use of advanced water meters (in most areas). By taking meter readings throughout the day we are able to determine if a leak is occurring or if there is unusually high usage. We make that information available to our customers on our website. We also offer email, text, and/or voice notifications. We do this so we can get the right information in our customers' hands, at the right time, so they can take the right and timely action. Often, it's just fixing a leaking toilet.

Planning for the Future

Smart water management begins at the planning stage. We work with cities, towns, developers, landowners, and our regulators to plan for the future. By working together, we look out into the future and plan our resources appropriately. By doing this in Maricopa we have been able to deploy an extensive reuse system allowing for the reduction in use of our source water supplies.

We work with technical groundwater scientists to understand our aquifers, plan well locations, and initiate construction projects. We also rely on sophisticated groundwater models to plan for and obtain designations of a 100-year assured water supply – a permit issued by the Arizona Department of Water Resources.

Water resources can be complex and water resource planning can be as well. We at Global Water help lead the way in local and regional planning efforts. We co-manage the Eloy and Maricopa Stanfield Basin Study, sit on the Pinal County Water Augmentation Authority, and share in leading the Pinal Groundwater Stakeholder's Group.

2019 WATER QUALITY TESTING

GWR samples and monitors over 150 possible parameters.

Compliance Monitoring:
GWR Compliance staff collects samples at well sites, treatment systems and sampling sites in the distribution system. These samples are analyzed by certified contract labs. We monitor for microbial, inorganic, organic and radiochemical attributes. Results from these samples are reported to regulatory agencies.

On -Line monitoring:
We have on-line monitors at some sites for continuous monitoring of certain parameters. These monitors help to assure water is safe before entering into the distribution system.

Field Monitoring:
Compliance staff take measurements for free chlorine, total chlorine, and pH of the samples. Required residual chlorine level protects water from microbial contamination.

PRIMARY CONTAMINANTS

Primary Drinking Water Regulations

The primary drinking water standards protect public health by limiting the levels of contaminants in drinking water. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

2019 WATER QUALITY TEST RESULTS

The following tables show detected parameters. The frequency of these samples is based on our monitoring cycle. The EPA or the State requires us to monitor for certain contaminants at a reduced frequency because the concentrations of these contaminants do not change frequently. The presence of any contaminant in drinking water does not necessarily indicate that the water poses a health risk. Unless otherwise indicated, the Tables lists all contaminants that were detected during the 2019 calendar year.

WATER QUALITY TABLES

2019 Water Quality Data Tables - Garden City:

Primary Contaminants

Analyte	Unit	MCLG or MRDLG	MCL, TT, or MRDL	Results	Compliance Achieved	Likely Source of Contamination
Inorganic Contaminants						
Nitrate	ppm	10	10	3.2	Yes	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Arsenic	ppb	0	10	8	Yes	Erosion of natural deposits; runoff from glass and electronics production wastes
Fluoride	ppm	4	4	2.1	Yes	Runoff from fertilizer use and aluminum factories; erosion of natural deposits
Barium	ppm	2	2	0.009	Yes	Discharge of drilling wastes and metal refineries; Erosion of natural deposits
Chromium	ppb	100	100	60	Yes	Discharge from steel and pulp mills; Erosion of natural deposits
Radionuclide Contaminants						
Combined Radium 2016	pCi/L	0	5	<0.4	Yes	Erosion of natural deposits
Alpha Emitters 2016	pCi/L	0	15	6.6	Yes	Erosion of natural deposits

Revised Total Coliform Rule (RTCR) - Microbiological

Microbiological	MCLG or MRDLG	MCL, TT, or MRDL	Number of Positive Samples	Number of Negative Samples	Violation Y or N	Compliance Achieved	Likely Source of Contamination
E. Coli	0	0	0	15	N	Yes	Human and animal fecal waste
Fecal Indicator (From GWR source)	0	0	0	15	N	Yes	Human and animal fecal waste

WATER QUALITY TABLES

2019 Water Quality Data Tables - Garden City:

Disinfection and Disinfection By-Products (DBPs)

Substance	Unit	MCLG or MRDLG	MCL, TT, or MRDL	Lowest Level	Highest Level	Average	Compliance Achieved	Likely Source of Contamination
Chlorine	ppm	4	4	0.38	1.59	1.11	Yes	Water additive used to control microbes
Disinfection By-Products (DBPs)				**Results**				
Total Trihalomethanes (TTHM)	ppb	NA	80	10			Yes	By-product of drinking water disinfection
Haloacetic Acids (HAA5)	ppb	NA	60	<2			Yes	By-product of drinking water disinfection

Some people who drink water containing haloacetic acid and trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer.

Lead and Copper

Analyte	Unit	Sampling	Action Level	Lowest Level	Highest Level	Average	90th Percent	Compliance Achieved	Likely Source of Contamination
Copper	ppm	5 Samples from consumer's tap	1.3	0.002	0.091	0.046	0.037 (of 5 samples)	Yes	Corrosion of household plumbing systems; erosion of natural deposits
Lead	ppb	5 Samples from consumer's tap	15	<0.5	0.84	0.17	0.5 (of 5 samples)	Yes	Corrosion of household plumbing systems; erosion of natural deposits

WATER QUALITY TABLES

2019 Water Quality Data Tables - Garden City:

Secondary Contaminants:
EPA has established non-enforceable water quality standards for 15 contaminants. These contaminants help as guidelines in managing drinking water for aesthetic considerations, such as taste, color, hardness and odor. These contaminants are not considered any risk to human health.

Secondary Contaminants

Analyte	Unit	MCLG or MRDLG	Results	Likely Source of Contamination
Hardness as CaCo3	ppm	NA	200	Naturally present in the environment
Manganese	ppm	NA	6.3	Naturally present in the environment
Sodium	ppm	NA	630	Naturally present in the environment
Sulfate	ppm	NA	1400	Naturally present in the environment
Calcium	ppm	NA	70	Naturally present in the environment
Alkalinity	ppm	NA	120	Naturally present in the environment
Total Dissolved Solids (TDS)	ppm	NA	2000	Naturally present in the environment

Water Hardness:
Groundwater, and to a certain extent surface water, in Arizona is expected to be "hard". This is a result of the natural formation of the aquifers in the state, and the geologic history of the area. Hardness is NOT a health concern. Hardness is essentially the amount of calcium and magnesium carbonates dissolved in water. The degree of hardness is determined by the concentrations of calcium and magnesium. Hardness in groundwater in the Garden City Service Area is 200 mg/L or 11.3 grains/gallon. Hardness is not regulated by the Safe Drinking Water Act; however, we monitor hardness in order to inform our customers.

Public Notification of Failure to Report on Time: GWR 3rd Quarter, 2019 Maximum Residual Disinfectant Level (MRDL) reports to Arizona Department of Environmental Quality (ADEQ) were required to be submitted on October 10th, 2019 but were submitted on October 22nd, 2019. This resulted in a late reporting violation. The deficiency was corrected and returned to compliance.
There is no reason to believe that this late reporting had an adverse impact on public health.

KEY DEFINITIONS

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

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health

Maximum Residual Disinfectant Level (MRDL): The level of disinfectant added for water treatment that may not be exceeded at the consumer's tap

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant added for treatment at which no known or anticipated adverse effect on health of persons would occur

Not Applicable (NA): Sampling was not completed by regulation or was not required

Not Detected (ND or <): Not detectable at reporting limit

Nephelometric Turbidity Units (NTU): A measure of water clarity

ppm: Parts per million or Milligrams per liter (mg/L)
ppb: Parts per billion or Micrograms per liter (µg/L)
pCi/L: Measure of the radioactivity in water

DRINKING WATER CONTAMINANTS

Microbial Contaminants: Such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife

Inorganic Contaminants: Such as salts and metals that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming

Pesticides and Herbicides: Such as agriculture, urban storm water runoff, and residential uses that may come from a variety of sources

Organic Chemical Contaminants: Such as synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

Radioactive Contaminants: That can be naturally occurring or be the result of oil and gas production and mining activities.

REQUIRED ADDITIONAL HEALTH INFORMATION

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).

Arsenic:
While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's 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:
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.

Uranium:
Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

REQUIRED ADDITIONAL HEALTH INFORMATION

Lead in drinking water and its effects on children:
Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Global Water Resources is responsible for providing high quality drinking water but 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. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800–426– 4791) or at www.epa.gov/safewater/lead.

Fluoride:
Fluoride contamination is rarely due to human activity. Fluoride occurs naturally in some areas and is found in high concentrations in the aquifer of our source water. This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis).

The drinking water provided by Garden city service area has a fluoride concentration of 2.1 mg/l. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Drinking water containing more than 4 mg/L of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease.

Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/l because of this cosmetic dental problem. We are continuing to monitor fluoride levels. We will inform you if they exceed the limit of 4 mg/l. For more information, please call Global Water Resources at 1-866-940-1102. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSFHELP.

CONNECTING CUSTOMERS

Customer Assistance Program

Global Water has expanded our Customer Assistance Program. The revised program is effective immediately. The expanded program provides assistance to customers for the following purposes:

- Low-Income Assistance (eligibility increased from 200% of Federal Poverty Level to 300%)
- Deployed Service Member Assistance (new program)
- Disabled Veteran Assistance (new program)
- Furloughed Worker Assistance (new program)
- Medical Hardship Assistance (new program)

If you are a Global Water customer who is in need of assistance, you can find more information about our Customer Assistance Program at:

https://www.gwresources.com/customer-assistance

or you can call us at 866-940-1102.

Sign-Up For The Customer Portal

1. Go to gwresources.com/access-your-account.
2. Enter your Account Number.
3. Enter your email address and click "reset password".
   This will instantly generate an email that will allow you to begin the set-up process.
4. You will have the flexibility to set up your new profile now or later.

Portal Features

- View and pay your bill on-line or on your smart phone.
- Set up automatic payments.
- View monthly reads.
- Manage multiple accounts (great for property managers & HOAs).
- Provide account access to multiple people.

WEBSITE

www.GWResources.com

Additional Helpful Links

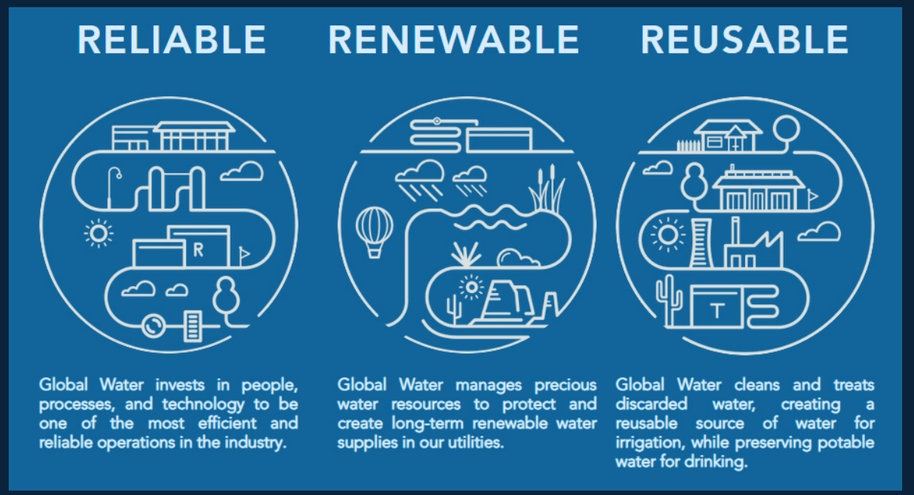
U.S. EPA's Safe Drinking Water Hotline
Phone: 800-426-4791
Website: www.epa.gov/safewater

Arizona Department of Environmental Quality
Phone: 602-771-2300
Website: www.azdeq.gov/wqd

Maricopa County Environmental Services Department
Phone: 602-506-6666
Website: www.maricopa.gov/EnvSvc/WaterWaste

Pinal County Environmental Services
Phone: 520-866-6681
Website: www.pinalcountyaz.gov/PublicWorks/EnvironmentalServices/Pages/Home.aspx

More Resources
www.WaterUseItWisely.com
www.TapIntoQuality.com



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