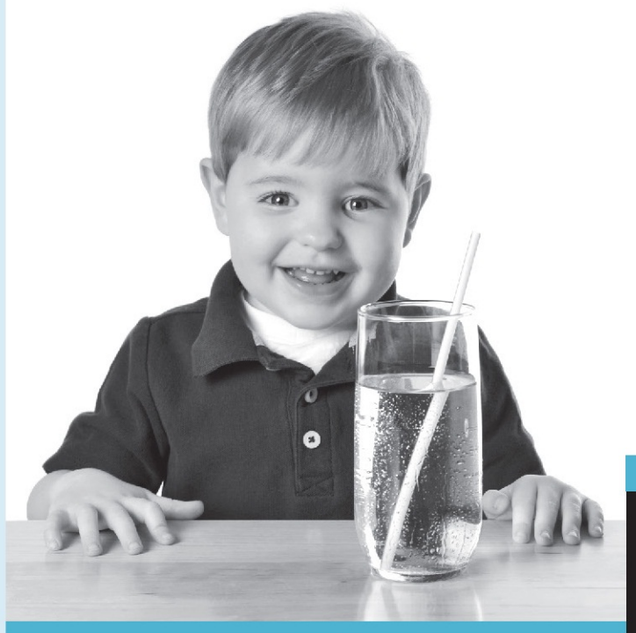
2013 Water Quality Report

Glendale, Arizona



We Care About the Quality of Your Water

This annual report provides information on the quality of the water provided by the city of Glendale. A municipal water system is a valuable and unique community asset. It delivers water to every business and home in our community. Water is essential to the health of each individual and to the vitality of our community.

The quality of your drinking water is very important to us. The city tests, analyzes and monitors water quality many times every day to ensure that the water provided is clean and safe to use. The Glendale Water Services Department is dedicated to providing water reliability, quality, and value.

Please take a few moments to read this report. We have included responses to frequently asked questions.

2013 Water Service Enhancements

Each year, the city of Glendale works hard to provide you, and the community with safe, reliable drinking water and outstanding customer service. We are continually improving our services, facilities, and operations. Here are some of the initiatives and projects we completed in 2013.

- The City Council appointed a 7 member Water Services Advisory Commission.
- Chlorine safety improvements were initiated and completed at well sites and reservoirs to further enhance safety for the public and city workers.
- The city continued to improve the water distribution system, replacing older pipes and constructing new distribution pipelines and connections.
- The city continuously updated security measures and safety plans.
- The city maintained a state of the art Water Quality Detection System that uses the best available technology to ensure a safe water supply.
- The city continued to rehabilitate wells in various locations throughout the city to improve water quality.
- The city used system optimization practices to improve water quality and reduce costs.

This report contains important information about your drinking water.

Want to Know More?

Water-related topics may be discussed at City Council meetings or other public forums.
City Council meeting minutes are available at www.glendaleaz.com.

Contact us:
Water Services Department: 623-930-4100 | Water Quality Laboratory: 623-930-3885
Water Billing: 623-930-3190 | Water Conservation: 623-930-3596
www.glendaleaz.com/waterservices

Learn more:
Tap Into Quality: www.tapintoquality.com | Only Tap Water Delivers: www.drinktap.org
Water Use It Wisely: www.wateruseitwisely,com/Arizona
Water Sense: www.epa.gov/watersense

Este informe contiene información importante acerca de su agua potable.
Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda 623-930-4100.

2013 Water Quality Analysis

This table shows the results of our water quality analysis in 2013. Each substance that was detected in the water, even in the smallest traceable amount, is listed.
The table contains the name of each substance; the highest substance level allowed by federal regulation; the highest level and range detected; and the major sources of each substance.

SUBSTANCE	FEDERAL MCL	MCLG	MAXIMUM	RANGE	AVERAGE	UNITS	SOURCES
Arsenic[1]	10	0	7.2	2.5 To 7.2	4.6	PPB	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes
Barium	2000	2000	116	13.6 To 116	66.6	PPB	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	32.5	ND To 32.5	8.0	PPB	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride	4	4	1.48	ND To 1.48	0.61	PPM	Erosion of natural deposits; water additive that promotes strong teeth; fertilizer & aluminum factory discharge
Nitrate[2] as Nitrogen	10	10	8.1	ND To 8.1	4.7	PPM	Runoff from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Total Organic Carbon	TT	N/A	2.4	ND To 2.37	1.95	PPM	Naturally present in the environment
Total Coliforms	Presence in no more than 5% of monthly samples	0	Highest monthly percentage 0.0%	0% To 0.0%	0.0%	P/A	Naturally present in the environment
Chlorine	MRDL = 4	MRDLG = 4	2.20	0.1 To 2.20	0.79	PPM	Water additive used to control microbes
Gross Alpha (excluding Radon & Uranium) (Sampled 2011)	15	0	2.2	ND To 2.2	1.1	pCi/L	Erosion of natural deposits
Gross Beta (Sampled 2011)	50[3]	0	14.4	ND To 14.4	3.3	pCi/L	Erosion of natural deposits
Radon[4] (Sampled 2011)	N/A	N/A	735	ND To 735	210	pCi/L	
Uranium (Sampled 2011)	30	0	5.0	ND To 5.0	2.0	PPB	Naturally present in the environment
Turbidity[5]	TT=1 NTU	0	0.28	0.009 To 0.28	0.081	NTU	Soil runoff
Turbidity[5]	TT=% Samples <0.3 NTU	0	100% of Samples <0.3	0% To 100%	100%=TT	NTU	Soil runoff
Total Haloacetic Acids[6]	60 (LRAA)	N/A	21	ND To 21	18.5 (LRAA)	PPB	Byproduct of drinking water disinfection
Total Trihalomethanes[7]	80 (LRAA)	N/A	101	8.2 To 101	59.4 (LRAA)	PPB	Byproduct of drinking water disinfection
Strontium[8]	N/A	N/A	1100	ND To 1100	807	PPB	Naturally present in the environment
Molybdenum[8]	N/A	N/A	4.6	ND To 4.6	2.6	PPB	Naturally present in the environment
Vanadium[8]	N/A	N/A	29	ND To 29	10.9	PPB	Naturally present in the environment
1,4-Dioxane[8]	N/A	N/A	0.244	ND To 0.244	0.241	PPB	Used in cosmetics, shampoos, detergents and other consumer products.
Hexavalent Chromium[8]	N/A	N/A	26	0.043 To 26	6.9	PPB	Naturally present in the environment
Bromochloromethane[8]	N/A	N/A	150	ND To 150	150	PPT	Volatile Organic Compounds are present in the environment
Chlorate[8]	N/A	N/A	150	ND To 150	80.5	PPB	Byproduct of drinking water disinfection

SUBSTANCE	AL	ALG	MAXIMUM	# OF SITES ABOVE THE AL	90TH PERCENTILE	UNITS	SOURCES
Copper (Sampled 2012)[9]	1,300	1,300	1,656	1	443	PPB	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (Sampled 2012)	15	0	ND	0	ND	PPB	Corrosion of household plumbing systems; erosion of natural deposits

Key to Table

AL (Action Level): Concentration of a contaminant that, if exceeded, triggers treatment or other community water system requirements.

ALG (Action Level Goal): The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. The ALG allows for a margin of safety.

LRAA (Locational Running Annual Average): Compliance with the maximum contaminant levels for two groups of disinfection byproducts (TTHM and HAA5) are calculated for each monitoring location in the distribution system.

MCL (Maximum Contaminant Level): The highest level of a substance that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available technology.

MCLG (Maximum Contaminant Level Goal): The level of a substance 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 Disinfection 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 contamination.

Range: The highest and lowest measurements reported during the year.

TT (Treatment Technique): A required process intended to reduce the level of substance in drinking water.

mg/L = milligram per liter
mrem = milli rem
N/A = Not Applicable
ND = Not Detected
NTU = Nephelometric Turbidity Units
NG = No MCLG established
pCi/L = picocuries per liter (a measure of radioactivity)
PPM = Parts Per Million, or milligrams per liter (mg/L)
PPB = Parts Per Billion, or micrograms per liter (µg/L)
PPT = Parts Per Trillion, or nanograms per liter (nanograms/L)
P/A = Presence / Absence
ARA = Annual Running Average

1. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. The arsenic level for 2013 was well below the 10 PPB MCL.

2. While your drinking water meets EPA's standard for nitrate-nitrogen, it does contain low levels of nitrate-nitrogen. The highest 2013 value for nitrate-nitrogen in the city of Glendale's water supply was 8.1 PPM.

3. The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles

4. The city of Glendale has detected various amounts of radon in its drinking water. Radon can get into indoor air when released from tap water during showering, washing dishes or from other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will, in most cases, be a small source of radon in indoor air.

5. Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is an indicator of the effectiveness of our filtration system.

6. Total Haloacetic Acids (HAA5): The sum of concentrations of mono-,di-, and trichloroacetic acids and mono-and dibromoacetic acids, which are byproducts of adding chlorine to water to kill harmful germs. The range of the results for Stage 2 HAA5 Disinfection Byproduct (DBP) monitoring for 2013 was ND to 21 PPB. Water samples are collected for total haloacetic acids quarterly at 12 locations within the city. Stage 2 HAA5 DBP values are calculated as a locational running annual average (LRAA).

7. Total Trihalomethanes (TTHM): The sum of concentrations of chloroform, bromodichoromethane, dibromochloromethane and bromoform, which are byproducts of adding chlorine to water to kill harmful germs. The range of the results for Stage 2 TTHM Disinfection Byproduct (DBP) monitoring for 2013 was 8.2 to 101 PPB. Water samples are collected for TTHMs quarterly at 12 locations within the city. Stage 2 TTHM DBP values are calculated as a locational running annual average (LRAA).

8. Third Unregulated Contaminant Monitoring Rule (UCMR3) – Under the 1996 amendments to the federal Safe Drinking Water Act, the U.S. Environmental Protection Agency is required once every five years to issue a new list of up to 30 unregulated contaminants for which public water systems must monitor. The intent of this rule is to provide baseline occurrence data that the EPA can combine with toxicological research to make decisions about potential future drinking water regulations. We are currently going through the third round of this constituent testing. Constituents we have detected during UCMR3 monitoring include: Strontium, Molybdenum, Vanadium, 1,4-Dioxane, Hexavalent Chromium, Bromochloromethane, and Chlorate. Currently the Federal Government has not established MCLs or MCLGs for these constituents.

9. Copper: In 2012, one home out of the 54 that were sampled and tested had a copper level of 1,656 PPB, which exceeded the 1,300 PPB Action Level (AL). A resample was collected at the home. The result of the resample was 1,043 PPB, which was below the AL. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

The city of Glendale has not detected any cryptosporidium in its source water or finished water during tests conducted in 2013.

This report contains important information about your drinking water.
For a Spanish translated version, call 623-930-2700.

Este informe contiene información importante acerca de su agua potable.
Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Glendale Water Services
Reliability • Quality • Value

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The Value of Water

Water is essential to all life and sustains our natural environment. Everyone uses water to drink, cook, clean, and for sanitation. The average single-family residence in Glendale uses 9,000 gallons of water and generates 6,500 gallons of wastewater a month. The city is able to provide water and wastewater services to such residential customers for approximately $2 per day.

The Water Services Department takes its responsibility of providing quality and reliable water, wastewater, environmental and storm water services very seriously. Water and wastewater services are provided 24 hours a day, every day. Water Services responds to water and wastewater emergencies in a timely manner to maintain these necessary services. The Department strategically manages water supplies through long term planning, implementation of new technologies, and acquisition and use of renewable water resources.

Frequently Asked Questions

If I have health problems, how will drinking tap water affect me?

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 and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Is it true that drinking water containing high nitrate levels is a health concern?

Nitrate in drinking water at levels above 10 parts per million poses a health risk for infants 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 due in part to rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. The nitrate level in Glendale's drinking water consistently meets safe drinking water requirements.

How do I know that my water meets all water quality standards?

The U.S. Environment Protection Agency (EPA) places strict limits on the amount of contaminants and impurities allowed in drinking water to ensure that your water is safe to drink. The city of Glendale uses modern treatment processes to comply with the EPA water standards. The city also has an extensive sampling and water quality testing program to ensure water quality.

Is bottled water better?

Bottled water is not necessarily better than water you receive from your tap. 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 the water poses a health risk.

More information about contaminants and their potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791. Information on bottled water can be obtained from the Food and Drug Administration (FDA).

Is a home water treatment system necessary?

The use of a home water treatment system is a personal decision. Some people invest in home water treatment systems to enhance the taste of water and to further remove impurities. Home water treatment systems are not needed to make water safer. In fact, if not properly maintained, home water treatment systems may actually cause water quality problems that may affect your health.

All home water treatment devices, including refrigerated water dispensers and ice makers, need regular maintenance to operate effectively and safely. Follow the operating manual that comes with the home water treatment system to ensure that your system is properly maintained and operated in accordance with the manufacturer's directions. Filter cartridges should be changed on a regular basis as recommended by the manufacturer.

Does Glendale have enough water resources for a growing community?

Strategic investments in securing long-term and renewable water resources have allowed the city of Glendale to earn and maintain a designation of Assured Water Supply from the state of Arizona. The designation of Assured Water Supply ensures residents, businesses and investors that there are sufficient water resources for land being considered for purchase or lease within the city's water service area.

Glendale has a 100-year water supply for all existing and planned developments within the city's water service area, and is capable of building the necessary distribution and treatment facilities to deliver high quality water to a growing community.

Where does Glendale's water come from?

The city uses renewable water supplies from the Salt, Verde and Colorado rivers, and stored water credits that are earned through the city's recharge program. In addition, Glendale can pump a limited amount of groundwater when needed.

Runoff from the Salt/Verde River watershed is stored in a series of lakes operated by the Salt River Project. Runoff from the Colorado River is stored in Lake Mead, Lake Powell, and Lake Pleasant and delivered to Arizona through the Central Arizona Project (CAP) canal.

Information & News

Tips About Your Drinking Water

Cloudy Water

Cloudy water is usually caused by temperature changes and the presence of dissolved air in the water. When water appears to have a milky white, gray, or carbonated appearance a simple test may suffice to denote its origin. Fill a clear glass with tap water and observe it over a minute or so. If the glass clears from bottom to top, then it is dissolved air escaping into the atmosphere. There is no health risk associated with this situation.

Water Hardness

Hardness is a measure of the presence of the minerals calcium and magnesium in water. As water moves through or over the earth, it picks up these minerals and causes the water to become "hard." The usage of the word "hard" in this case refers to the difficulty with which the water produces soapsuds, with successively harder water requiring more and more soap. The amount of hardness in the city of Glendale's drinking water is between 250 to 350 PPM, or 15 to 20 grains per gallon. Hard water is not a health hazard. According to the National Research Council (National Academy of Sciences), hard water generally contributes a small amount toward total calcium and magnesium human dietary needs.

Chlorine Taste & Odor

Glendale has a long and successful history of water treatment using chlorine. Chlorine content throughout the city is checked daily to ensure the highest quality control. Without proper initial disinfection and continued residual protection, the city's entire water distribution system would be vulnerable to bacteria. You can reduce or eliminate the chlorine taste or odor by setting an open pitcher of tap water in your refrigerator overnight.

Musty Taste & Odor

Occasionally tap water may have an earthy, musty or fishy taste and odor. This seasonal condition is caused by the turnover of our lakes each spring and fall, or with the presence of varied algal blooms in the lakes or rivers. It is important to note this taste and odor poses no health concern. The city is using advanced treatment techniques, such as granular-activated carbon, to continue to improve the taste and quality of our water.

Protecting the Environment

Control Fats, Oils and Grease at Businesses and Homes

Fats, oils, and/or grease (FOG) can create blockages in drains and sewer pipes and can cause overflows. To prevent grease build up in the sewer pipes, the city maintains an inspection program of commercial businesses that includes eating establishments, auto repair shops, commercial laundries and car washes.

What you can do - Do not put grease down your garbage disposal or sink. For tips on how to dispose of FOGs properly, visit: www.glendaleaz.com/waterservices

You Can Help Keep Our Waterways Clean

When it rains, our yards can become channels to our waterways. A storm can wash fertilizers, herbicides, pesticides, and other chemicals from yards into the streets and eventually our waterways. Use pesticides, herbicides, and fertilizers sparingly and do not apply just before, during or immediately after rainfall. Always read and follow the directions for use. For helpful tips for monitoring your impact to the environment visit www.azstorm.org

Draining Your Pool?

City Code prohibits draining your pool or spa water into city streets, alleyways and rights-of–way. For more information on how to legally drain and backwash your pool visit www.glendaleaz.com/WaterConservation/publications.cfm

Safely Dispose of Unused Medications

Do not flush unused medications and personal health care products down the sink or toilet because it introduces these chemicals into the environment. These products include:

- Prescription and over-the-counter medication
- Pet medication
- Cosmetics/fragrances
- Vitamins
- Sun-screen products

Learn how to help the environment by disposing of unused medications in a responsible manner by visiting www.glendaleaz.com/utilities/pretreatment/documents.cfm

Water Conservation

The Water Services Department is committed to ensuring a reliable water supply for Glendale's future. The City's award-winning water conservation program assists businesses and residents with how-to advice about low-water-use landscaping and the what-works information to improve indoor water efficiency. For more information about water conservation incentives, classes, and programs visit www.glendaleaz.com/waterconservation

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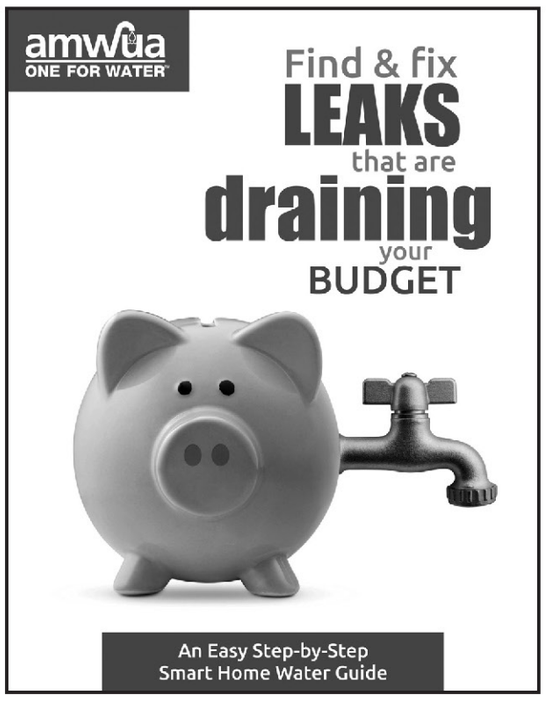
wateruseitwisely.com

The Water Conservation Office offers a variety of programs for local elementary schools. The Water Watchers youth program provides discovery station presentations and take-home activities for students and provides teachers with lesson plans and teaching materials meeting the Arizona Teaching Standards. For more information about youth water conservation programs visit www.glendaleaz.com/WaterConservation/education

Help with Finding Leaks

The new Smart Home Water Guide is a step-by-step manual for tracking down leaks inside and outside your home.

Ask for a copy by calling 623-930-3596 or use the on-line version at http://www.amwua.org/home_water_guide.php



Additional Information

Potential Impurities

The city of Glendale's raw water sources include rivers, lakes, reservoirs and wells. As water travels from these sources, it dissolves naturally-occurring minerals and, in some cases, radioactive material. Water also can pick up substances remaining from the presence of animals or people. Substances that may be present 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 a result of storm water runoff, industrial or domestic wastewater discharges, mining or farming.
- Organic chemical contaminants, including synthetic and volatile organics which are byproducts of industrial processes. These also can come from gas stations, storm runoff and septic systems.
- Pesticides and herbicides, which may come from agriculture, storm water runoff and homes.
- Radioactive contaminants, which can be naturally occurring.

The city treats and processes the water to improve quality and has an extensive water testing program to ensure water quality.

Source Water Assessment

The Arizona Department of Environmental Quality (ADEQ) conducted a source water assessment of the city of Glendale's surface water and groundwater sources. The assessment included an evaluation of land uses, such as gas stations, landfills, dry cleaners, agricultural fields, wastewater treatment plants, and mining activities that may pose a potential water quality risk to the city's water sources.

In order to ensure high quality water, the city treats the water received from all sources prior to delivery. Glendale's top priority is to provide safe drinking water 24 hours a day, every day.

A copy of the preliminary source water assessment report is available for inspection at ADEQ, 1110 West Washington Street, Phoenix, Arizona 85007, between the hours of 8 a.m. and 5 p.m. Electronic copies are available from ADEQ at dml@azdeq.gov.

For more information, visit the ADEQ website at: www.azdeq.gov/environ/water/dw/swap.html or contact the city of Glendale's Water Services Department at 623-930-4100.

TAP INTO QUALITY

Tap water. You turn on the faucet, it's always there. It may be taken for granted, but tap water quality, convenience and value is not taken lightly by the people who ensure it is safe and available when you want it. The safety, convenience and affordability of tap water is the message being communicated by "Tap Into Quality," a public education campaign designed to keep citizens informed about the quality of their tap water. To learn more about your tap water, and check out an informative video, visit www.tapintoquality.com.