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Water Quality Report 2004

Water – Our Vital Resource

Your water is very important to us. The city of Glendale has a dedicated staff of trained professionals working around the clock to provide you with water that is superior to state and federal water quality standards.

In 2004, Glendale met all health and safety regulations for your drinking water. As a Glendale resident, you can rest assured that the city of Glendale is the sole provider of your drinking water.

Please take a few moments to read this report. We have included responses to many of your questions. Through this report, you will find that Glendale's water exceeds Environmental Protection Agency standards and is safe for you and your family to drink.

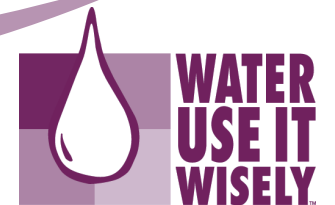
2004 System Enhancements

Each year, Glendale manages projects designed to improve your drinking water by responding to and anticipating future growth as well as maintaining the city's existing water system. Currently, some of those funded projects include:

- Installation of granular activated carbon filters at the Cholla Water Treatment Plant -- Scheduled to begin in 2005, this upgrade will improve the taste of water delivered to central and western Glendale.
- Expansion of the Pyramid Peak Water Treatment Plant's treatment capacity, by implementing additional improvements -- This expansion is necessary to meet our community's growing water demand.
- Managing the water needs of the city's rapid growth -- Construction will begin in 2005 on a third surface water treatment plant serving Glendale.
- Work continues within the distribution system, in replacing older pipelines and constructing new distribution pipelines and connections to meet Glendale's increasing demand.



City of Glendale
Utilities Department
6210 West Myrtle Ave., Suite 112
Glendale, AZ 85301



Maintaining Glendale's Water Supply in Drought Conditions

Glendale continues to reap the benefits of investing wisely in securing long-term and renewable water supplies.

The city has several sources of water from which to draw upon, including surface water, groundwater and stored water credits. Glendale's surface water supplies originate from the springtime snow melt and rains that occur on the Salt, Verde and Colorado rivers' watersheds.

Runoff from the Salt and Verde rivers' 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, Lake Pleasant and Flaming Gorge Reservoir and delivered to Arizona through the Central Arizona Project.

In the summer of 2004, Glendale issued a Stage 1 Drought Watch in response to persistent drought conditions in Arizona and the Western United States. While several large winter storms have filled the six lakes on the Salt and Verde river system in 2004, the lakes and reservoirs on the Colorado River system remain half full after many years of dry conditions.

Since cycles of drought and flood conditions are a normal occurrence, it is necessary to continue to effectively manage our available water supplies. An example is the city's strategy to reclaim and reuse wastewater.

Glendale is a leader in water reuse, aquifer recharge, and groundwater storage. The city has processed and accumulated significant volumes of stored water, which is available for future use. Stored in underground aquifers, this water is of tremendous value because it is not subject to drought.

Although this stored water is a great asset to Glendale, our desert climate makes water conservation a necessary way of life. The city of Glendale offers a variety of programs and classes to educate and promote water conservation to its customers. Residents installing low-water-use landscaping are eligible to receive a rebate through the city's Water Conservation Office. To find out more on Glendale's water conservation programs, call (623) 930-3596.

Potential Impurities

Glendale's water sources include rivers, lakes, streams, reservoirs and wells. As water travels from these sources, it dissolves naturally occurring minerals. Water also can pick up substances remaining from the presence of animals or human activity. 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 be 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.

Glendale Ensures Safe Drinking Water

Because your water is important to us, Glendale continuously monitors its distribution system and water treatment facilities meticulously for contaminants.

The city operates its water system to provide water of a higher quality than is required by federal, state and local agencies.



In addition, security is a priority to Glendale and the city continues to take appropriate measures to protect our water system.

Want to Know More?

From time to time, water-related topics are discussed at City Council meetings or other public forums, and we welcome your attendance. Meeting notices are available on the city's Web site at www.glendaleaz.com. For additional information on water-related issues, please contact:

- Glendale Utilities Department
(623) 930-2700
- Glendale Water Quality Laboratory
(623) 930-3885
- Glendale Water Conservation Office
(623) 930-3596

2004 Water Quality Analysis

This table shows the results of our water quality analyses in 2004. 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	50	zero	9.4	ND To 9.4	5.44	PPB	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
Barium	2000	2000	135	11 To 135	61.60	PPB	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	42	ND To 42	21.29	PPB	Discharge from steel and pulp mills; erosion of natural deposits
Chlorite	1	0.8	0.20	ND To 0.20	0.20	PPM	Byproduct of drinking water chlorination
Fluoride	4	4	0.92	0.3 To 0.92	0.58	PPM	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate ²	10	10	5.94	ND To 5.94	3.33	PPM	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Organic Carbon	TT	N/A	3.78	1.06 To 3.78	2.44	PPM	Naturally present in the environment
Total Coliforms	Presence in no more than 5% of monthly samples	0	Highest monthly percentage 0.87%	0 To 0.87%	0.31%	P/A	Coliforms are naturally present in the environment, as well as in feces; fecal coliforms and E. coli only come from human and animal fecal waste
Free Chlorine	MRDL=4	MRDLG = 4	2.58	0.04 To 2.58	1.09	PPM	Water additive used to control microbes
Gross Alpha radioactive (excluding radon & uranium)	15	zero	0.40	ND To 0.40	0.40	pCi/l	Erosion of natural deposits of certain minerals that are and may emit a form of radiation known as alpha radiation
Radon ³	N/A	N/A	330	ND To 330	262.86	pCi/l	
Turbidity ⁴ (combined filters)	TT= 1 NTU	N/A	0.25	0.02 To 0.25	0.05	NTU	Soil runoff
Turbidity ⁴		TT = % Samples < 0.3 NTU	100% of Samples < 0.3	0.02 To 0.25	100% = TT	NTU	Soil runoff
Total Haloacetic Acids ⁵	60 (ARA)	N/A	17.40	ND To 34.6	17.16 (ARA)	PPB	Byproduct of drinking water disinfection
Total Trihalomethanes ⁶	80 (ARA)	N/A	58.97	9.4 To 106	54.84 (ARA)	PPB	Byproduct of drinking water disinfection

PARAMATER	FEDERAL AL	MCLG	MAXIMUM	# OF SITES FOUND ABOVE THE AL	90TH PERCENTILE	UNITS	SOURCES
Copper (2003)	1,300	1,300	790	zero	370	PPB	Corrosion of household plumbing systems; erosion of natural deposits
Lead (2003)	15	zero	11	zero	1	PPB	Corrosion of household plumbing systems; erosion of natural deposits

Key to Table

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 treatment 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 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 contamination.

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

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

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

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)

P/A = Presence/Absence

N/A = Not applicable

ARA = Annual Running Average

¹ 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. The highest 2004 value for arsenic in Glendale was 9.4 PPB, meeting the EPA's MCL of 50 PPB.

² While your drinking water meets EPA's standard for nitrate, it does contain low levels of nitrate. The highest 2004 value for nitrate in Glendale was 5.94 PPM, meeting the EPA's MCL of 10 PPM.

³ 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 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.

⁴ Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

⁵ Total Haloacetic Acids 5 (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 annual running average HAA5 value for 2004 was 17.16 PPB, meeting the EPA's MCL of 60 PPB. Total trihalomethanes are sampled quarterly at 12 locations within the city which are then averaged together as a running annual average. This number reflects sampling that occurred during the last three quarters of 2003 and the entire year of 2004.

⁶ Total Trihalomethanes (TTHM): The sum of concentrations of chloroform, bromodichloromethane, dibromochloromethane and bromoform, which are byproducts of adding chlorine to water to kill harmful germs. Total trihalomethanes are sampled quarterly at 12 locations within the city which are then averaged together as a running annual average. This number reflects sampling that occurred during the last three quarters of 2003 and the entire year of 2004. The average TTHM value for 2004 was 54.84 PPB.

The city of Glendale has not detected any cryptosporidium in its source water or finished water during tests run in 2004.

For more information on Glendale's water quality or testing programs, please call (623) 930-3885 or visit Glendale's Web site at www.glendaleaz.com.

Este informe contiene información importante acerca de su agua potable. Si desea una copia de este informe en español o tiene alguna pregunta sobre el, por favor lláme a (623) 930-2700.

Frequently Asked Questions

How do I know that my water is safe to drink?

The Environmental Protection Agency (EPA) has placed strict limits on the amount of impurities allowed in drinking water to ensure that your water is safe to drink. Glendale is in full compliance with the drinking water standards outlined in the federal Safe Drinking Water Act, administered by the EPA and the Arizona Department of Environmental Quality. To comply, Glendale uses a multiple-barrier treatment process that both eliminates and minimizes the presence of impurities in your water supply.

State and county health experts advise that the best protection against all bacteria is through chlorination, which properly disinfects water. Glendale chlorinates all of its drinking water supply prior to delivery to your home.

Glendale's commitment to deliver safe drinking water surpasses the standards set forth in the Safe Drinking Water Act. In fact, Glendale analyzed more than 11,000 water samples last year to ensure your water is safe and the environment is protected.

Is bottled water safer for my family?

No. Regulations for bottled water by the U.S. Food and Drug Administration (FDA) are not as comprehensive as the regulations the EPA has established for your tap water. Both tap water and bottled water may be reasonably expected to contain very small amounts of some contaminants. The presence of contaminants does not necessarily indicate the water poses a health risk.

Additional information about contaminants and their potential health effects is available by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791. Information on bottled water can be obtained from the FDA.

Why does the taste of my tap water vary throughout the year?

Your tap water will taste different throughout the year due to seasonal changes in the environment. During hot weather, your water tastes different, in part, due to the growth of harmless algae in our lakes and canals. Glendale is continuously working to control these fluctuations in taste, however we aren't always able to totally eliminate them. Rest assured, regardless of the varying taste, your water is safe to drink and meets all of the regulatory standards.

Also, since we live in a desert climate, water coming from outside your home is often warm, and warm water simply doesn't taste as good as cold water. We suggest that you "fill and chill" your water. Fill a container of water and refrigerate before drinking. You will immediately notice a difference in taste.

Should I be concerned about the presence of lead in my drinking water?

No. Lead testing was recently performed in approximately 70 Glendale homes and the highest lead concentration detected was 11 parts per billion (ppb), which is under the EPA Action Level (AL) of 15 ppb. Ninety percent of the Glendale homes tested had concentrations of 1 ppb or less.

Although occasionally found in natural deposits near drinking water sources, lead contamination generally occurs from corrosion of lead pipes between water main pipelines and a home

plumbing system. Corrosive water may filter lead from pipes, lead solder or brass fixtures in a home.

How will drinking Glendale's tap water affect me if I have health problems?

Individuals whose immune system is weakened by illness, disease or medical treatment need to be more careful with every aspect of their health, including the food and water they consume. If you believe you or a family member is at a higher risk for infections, please seek the advice of a doctor about drinking water. The EPA and Center for Disease Control provide guidelines on appropriate ways to reduce the risks of infection by cryptosporidium and other microbial contaminants.

This information is available from the federal Safe Drinking Water Hotline at 1-800-426-4791.

How does arsenic get into my drinking water?

Small traces of arsenic found in drinking water come from the erosion of natural deposits, runoff from orchards, and runoff from glass and electronics production wastes. The EPA has more stringent arsenic requirements that will go into effect January 2006, changing the federal MCL requirements from 50 parts per billion (ppb) to 10 ppb. Through planning and resource management, the city of Glendale will be unaffected by this change as the city already meets this new requirement.

What is turbidity and how does it affect my drinking water?

Turbidity is a measure of the cloudiness in water. We monitor turbidity levels because it is a significant indicator of the effectiveness of the water treatment process and resulting treated water quality.

Is it true that nitrate found in drinking water can cause blue-baby syndrome?

Yes. 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. Glendale's drinking water meets all quality standards, including nitrates. If you are caring for an infant, seek advice from your health-care provider.