

2003 Water-Quality Report



This brochure explains how drinking water provided by City of Tempe is of the highest quality. Included is a listing of results from water-quality tests as well as an explanation of where our water comes from and tips on how to interpret the data. This "Consumer Confidence Report" is required by law. We're proud to share our results with you. Please read them carefully.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien. Pongase en contacto con el Departamento de Comunicaciones de la Ciudad de Tempe al (480) 350-2649.

We are proud to report that the water provided by City of Tempe meets or exceeds established water-quality standards.

Overview

In 2003, your water department distributed 18.4 billion gallons of water to Tempe and Guadalupe customers. In addition to testing that we are required to perform, our water system voluntarily tests for hundreds of additional substances and microscopic organisms to make certain our water is safe and of the highest quality. If you are interested in a more detailed report, contact Sherman McCutcheon (480) 350-2644.

Water Source

The drinking water in Tempe is produced at two water treatment plants. The Johnny Martinez Treatment Plant is located at 255 E.

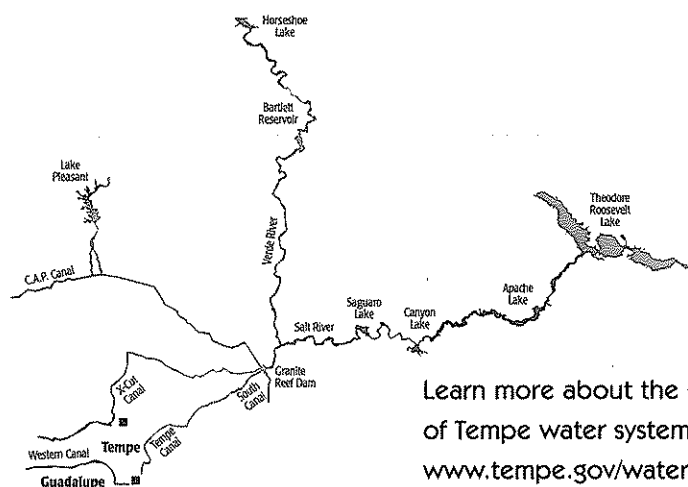
Marigold Lane and the South Tempe Treatment Plant is located at 6600 S. Price Road.

The City of Tempe has several sources of water available to it:

Central Arizona Project water — Beginning its journey from Lake Havasu, CAP water travels to Lake Pleasant and on through the valley to Tucson. Tempe purchased 7,950 acre feet of CAP water in 2003.

Salt River Project water

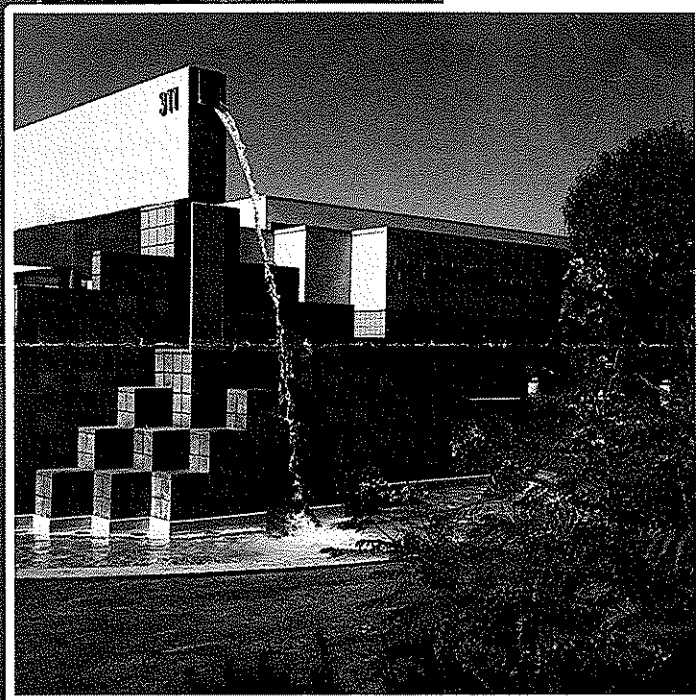
This water is collected from the Salt and Verde River watersheds, and diverted into SRP canals at the Granite Reef Dam, in Mesa. Tempe's allotment of SRP water depends on the amount of water available in the system, and therefore varies from year to year. Tempe's water use for 2003 was 45,004 acre feet.



Learn more about the City of Tempe water system at www.tempe.gov/water.

Tempe Water Treatment Plants

Groundwater — Tempe has seven (7) groundwater wells that it uses as a back-up water supply in times of water shortages. The wells are tested quarterly to assure that the water meets safe drinking water standards. In 2003 Tempe pumped 3,227 acre feet.



Substance	Unit	MCL	MCLG	Average Level	Range	Major Sources
Arsenic	ppb	50	0	3.5	1.4 - 5.4	Erosion of natural deposits
Barium	ppm	2	2	0.06	ND - 0.1	Erosion of natural deposits
Chlorine	ppm	4 MRDL	4 MRDLG	0.98	0.21 - 1.37	Disinfectant added to control microbial contaminants
Fluoride	ppm	4	4	0.72	0.15 - 1.7	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate	ppm	10	10	1.6	ND - 6.9	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Copper (90th percentile)	ppm	AL = 1.3		(0.33)	ND - 1	Corrosion of household plumbing systems
Lead (90th percentile)	ppb	AL = 15 7 households above the Action Level for Lead, 105 households tested		(8.9)	ND - 76	Corrosion of household plumbing systems
Sodium	ppm	No MCL		127	62 - 320	Erosion of natural deposits
Chloride	ppm	No MCL		164	37 - 280	Erosion of natural deposits
Sulfate	ppm	No MCL		116	74 - 190	Erosion of natural deposits
Radon	pCi/L	No MCL		249	ND- 539	Erosion of natural deposits
Gross Alpha	pCi/L	15	0	3.6	0.4 - 6.3	Erosion of natural deposits
Gross Beta	pCi/L	50#	0	3.4	ND - 4.1	Decay of natural and man-made deposits
Turbidity	NTU	TT = 0.5 TT = percentage of samples <0.5 NTU		0.06 100%**	0.01 - 0.15 100%	Soil runoff
Total Coliform	% of Samples	<5	0	2.5*	0 - 2.5	Naturally present in the environment
Fecal Coliform	% of Samples	-	-	-	0	
Selenium	ppb	50	50	2.7	ND - 3.9	Discharge from mines; Erosion of natural deposits
Total Haloacetic acids	ppb	Annual Average of 60		22	ND - 46.9	By-product of drinking water chlorination.
Total Trihalomethanes	ppb	Annual Average of 80		54.6	9.8 - 113	By-product of drinking water chlorination.
Tetrachloroethylene	ppb	5	0	0.6	ND - 1.3	Discharge from factories and dry cleaners

Key To Table

NTU = Nephelometric Turbidity Units

ppb = parts per billion or micrograms per liter (ug/l)

ppm = parts per million or milligrams per liter (mg/l)

Lead and Copper average value is the 90th percentile value

pCi/L = picocuries per liter, a measure of radiation

* maximum monthly average value

** Minimum monthly average value

An Explanation of the Water-Quality Data Table

The following table shows the substances for which the Water Quality Laboratory tests. Every regulated substance that we detected in the water, even in the most minute traces, is listed here. The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health, the amount detected, the usual sources of such contamination, footnotes explaining our findings, and a key to units of measurement. Please note, the simple presence of a substance in drinking water does NOT necessarily indicate the drinking water poses a health risk. Certain quantities of some substances are essential to good health, but excessive quantities can be hazardous. Definitions of MCL and MCLG are important.

Maximum Contaminant Level or 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 or 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.

Maximum Residual Disinfectant Level Goal or 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 or 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.

Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.

Action Level or AL: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Unregulated Contaminants - Radon

The U.S. Environmental Protection Agency (EPA) is preparing a regulation which will specify a Maximum Contaminant Level for Radon. Radon is a radioactive gas that occurs naturally in ground water and is released from water into the air during household use. For additional information, call your state radon program or call EPA's Radon Hotline (800-SOS-RADON).

Why do we measure Turbidity?

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

Required Additional Health Information

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. FDA regulations establish limits for contaminants in bottled water.

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).

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. Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

(E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Special Information for Immuno-compromised People

Some people may be more vulnerable to contaminants in drinking water than is 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* are available from the Safe Drinking Water Hotline (800-426-4791).

Health Effects Language

Lead - Infants and young children are typically more vulnerable to lead in drinking water than the general population.

It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

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 for advice from your health care provider.

Arsenic - While your drinking water meets USEPA's standard for arsenic, it does contain low levels of arsenic. USEPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. USEPA 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.

If other people, such as tenants, residents, patients, students, or employees, receive water from you, it is important that you provide this notice to them by posting it in a conspicuous location or by direct hand or mail delivery.

Consult our Web site at www.tempe.gov/water and, for further information, see U.S. Environmental Protection Agency (EPA) water information at www.epa.gov/safewater/. Water Quality Data for community water systems throughout the United States is available at www.waterdata.com. For more information, call City of Tempe at 480-350-8330.

Source Water Assessment Summary

Based on the information currently available on the hydrogeologic settings and the adjacent land uses that are in the specified proximity of the drinking water source(s) of this public water system, the Arizona Department of Environmental Quality has given a high risk designation for the degree to which this public water system drinking water source(s) are protected. A designation of high risk indicates there may be additional source water protection measures which can be implemented on the local level. This does not imply that the source water is contaminated nor does it mean that contamination is imminent. Rather, it simply states that land use activities or hydrogeologic conditions exist that make the source water susceptible to possible future contamination.

Failure to Monitor Notice

The City of Tempe is required to monitor Tempe drinking water for specific contaminants on a regular basis. The City is required to analyze one drinking water sample every 3 months for nitrate from City of Tempe Well No. 11 if that well is used as a drinking water source at any time during those 3 months. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Tempe is also required to monitor for total organic carbon (TOC) in source water and in treated water for the City's two drinking water treatment plants on a monthly basis. The level of TOC in drinking water is one indicator of the potential for the formation of disinfection by-products after water leaves the City's drinking water plants. TOC itself is not a direct indicator of the safety of drinking water.

Well No. 11 was used as a source of drinking water for the City of Tempe system between January 1 and January 15, 2004. On January 15, the well became inoperable, preventing monitoring or testing for nitrate during the first 3 months of 2004. The City also did not monitor for TOC for the South Tempe Water Treatment Plant for January, 2004. Therefore, we cannot be sure of what levels of nitrate and TOC were present in our drinking water during that time.

The City is required to provide its customers notification that we did not monitor for nitrate and TOC as described above. There is nothing you need to do at this time. Although the absence of monitoring for nitrate creates some level of uncertainty with regard to the presence or absence of nitrate in the City's drinking water, the City has never seen levels of nitrate in Well No. 11 above 5.7 milligrams per liter in previous monitoring periods. The safe drinking water standard for nitrate is 10 milligrams per liter. Although there is also uncertainty with regard to the level of TOC in drinking water in January 2004, TOC does not pose a health risk by itself.

The City will continue to monitor regularly for nitrate, TOC, and other contaminants as required under state and federal drinking water regulations.

For more information, please contact Sherman McCutcheon at (480) 350-2644, or at the Tempe Water Utilities Department, P.O. Box 5002, Tempe, Arizona, 85280.



There's nothing easier than getting a drink of tap water. With a turn of the tap, you get a supply of refreshing water to quench your Arizona thirst. For a cooler treat, fill and chill a pitcher of water in your refrigerator. So if you want the quickest and easiest way to get quality drinking water... Tap into Quality ... the convenience of tap water.