

2002 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 2002, your water department distributed 19.5 billion gallons of water to Tempe 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:

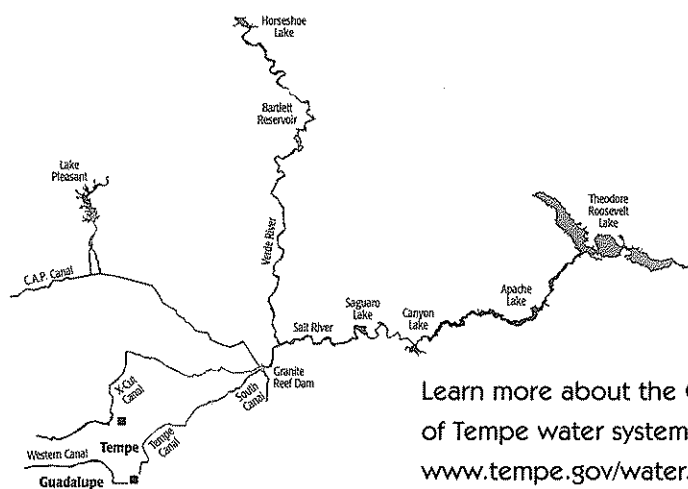
Central Arizona Project water — Beginning its journey from Lake Havasu, CAP water travels to Lake Pleasant and on to Tucson. Tempe purchased 4,700 acre feet of CAP water in 2002.

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.

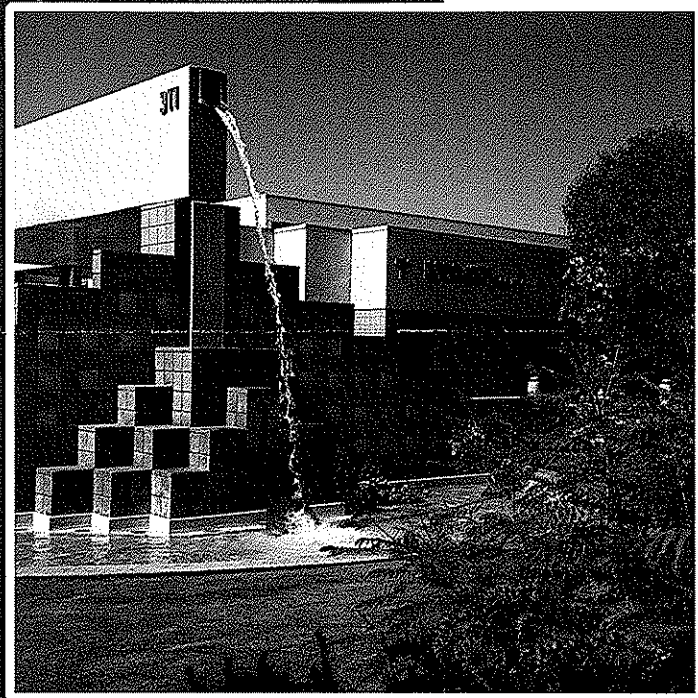
Tempe's allotment of SRP water depends on the amount of water available in the system, and therefore varies from year to year. Tempe's water use for 2002 was 51,814 acre feet.

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 2002 Tempe pumped 3,284 acre feet.



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

■ Tempe Water Treatment Plants



Substance	Unit	MCL	MCLG	Average Level	Range	Major Sources
Arsenic	ppb	50	0	4.4	2.1 - 7.4	Erosion of natural deposits;
Barium	ppm	2	2	0.07	ND - 0.09	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine	ppm	4 MRDL	4 MRDLG	0.96	0.25 - 1.40	Disinfectant added to control microbial contaminants
Fluoride	ppm	4	4	0.71	0.28 - 1.48	Erosion of natural deposits; Water additive which promotes strong teeth
Nitrate	ppm	10	10	0.8	ND - 2.1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Lead (2000)	ppb	AL = 15	0	< 5	ND - 17	Corrosion of household plumbing systems
Copper (2000)	ppm	AL = 1.3	1.3	0.14	ND - 0.81	Corrosion of household plumbing systems
Sodium	ppm	No MCL's		190	140 - 260	Erosion of natural deposits
Chloride	ppm	No MCL's		199	62 - 347	Erosion of natural deposits
Sulfate	ppm	No MCL's		118	79 - 190	Erosion of natural deposits
Gross Alpha	pCi/L	15	0	3.5	2.5 - 5.3	Erosion of natural deposits
Gross Beta	pCi/L	50#	0	2.9	ND - 3.1	Decay of natural and man-made deposits
Turbidity	NTU	TT = 0.5 TT = percentage of samples < 0.5 NTU		0.11* 100%**	0.04 - 0.16 100%	Soil runoff
Total Coliform	% of Samples	< 5	0	3.3*	0 - 3.3	Naturally present in the environment
Selenium	ppb	50	50	2.0	1.2 - 3.1	Discharge from mines; Discharge from metal refineries; Erosion of natural deposits
Total Haloacetic acids	ppb	60		14.1	ND - 24.8	By-product of drinking water chlorination.
Chloral Hydrate	ppb	This group was tested as part of the EPA's Information Collection Rule (1998).			1.1 - 6.9	By-products of drinking water chlorination
Total Haloacetonitriles	ppb				2.9 - 8.3	
Total Haloketones	ppb				0.5 - 3.3	
Total Trihalomethanes	ppb	80		44.3	8.9 - 78.7	By-product of drinking water chlorination

Key To Table

MCL = Maximum Contaminant Level
 NTU = Nephelometric Turbidity Units
 TT = Treatment Technique
 AL = Action Level

MCLG = Maximum Contaminant Level Goal
 ppm = parts per million or milligrams per liter (mg/l)
 ppb = parts per billion or micrograms per liter (ug/l)
 pCi/L = picocuries per liter, a measure of radiation

* maximum monthly average value
 ** Minimum monthly average value
 #50 pCi/L is equivalent to 4 mrem/yr

The analysis of Gross Alpha and Gross Beta is required every four years, data is from 1999.

EPA established a new MCL for Arsenic of 10 ppb in 2001. Arsenic is a naturally-occurring mineral known to cause cancer in humans at high concentrations. Although EPA will allow large systems until January 2006 to comply with the new MCL, all City of Tempe drinking water sources meet this standard today.

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.

Public Notice - Failure to Conduct Individual Filter Monitoring

The City of Tempe operates six (6) filters at the South Tempe Water Treatment Plant through which all drinking water from that plant is filtered to ensure that Tempe's customers are protected from disease-causing organisms. Tempe monitors turbidity levels in treated water at each filter individually, and after drinking water from all six filters is combined, prior to delivery to Tempe's customers. We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. Between 7:30 am on Monday, August 19 and 1:00 am on Tuesday, August 20, 2002, we did not conduct individual filter monitoring at one out of six of the filters at the South Tempe Water Treatment Plant, and therefore cannot be sure of the quality of our drinking water during that time.

There is nothing you need to do at this time. Although we did not conduct turbidity monitoring at one filter during the specified period, we did conduct continuous monitoring of water from that filter, combined with all other filtered water at the plant, prior to delivery to our customers. During the specified period, combined turbidity did not exceed 0.17 nephelometric turbidity units (NTUs), which is well below federal and state drinking water standards for combined filtered water. Tempe has conducted turbidity monitoring at each individual filter, at least every 15 minutes, since the occurrence.

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

For more information, please contact Sherman McCutcheon of the City of Tempe at (480) 350-2644.

Unregulated Contaminants

During testing in January 2000, Radon was not detected in our drinking water. 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.

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 for 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.

Substance of Interest	Unit	Typical Value	Range of Values
Magnesium	ppm	21	0 - 40
Hardness	ppm	248	118 - 318
Hardness	grains/gallon	14	6.9 - 18
Aluminum	ppm	0.17	0.17 - 0.18
Boron	ppm	0.16	0.15 - 0.17
Calcium	ppm	64	20 - 99
Total Dissolved Solids	ppm	760	670 - 860
Silica	ppm	12	9.3 - 14
p H	pH units	7.58	7.26 - 8.12
Alkalinity	ppm	141	100 - 196



More than 100 tests are performed on your tap water to ensure it is always completely safe to drink. The Valley's tap water must meet all standards set by the Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ).

Valley water providers are committed to maintaining the safety and quality of your tap water. So if you want Quality drinking water at a most affordable cost .. Tap into Quality ... the bargain of tap water.