

City of Tempe

2005 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 informacion 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

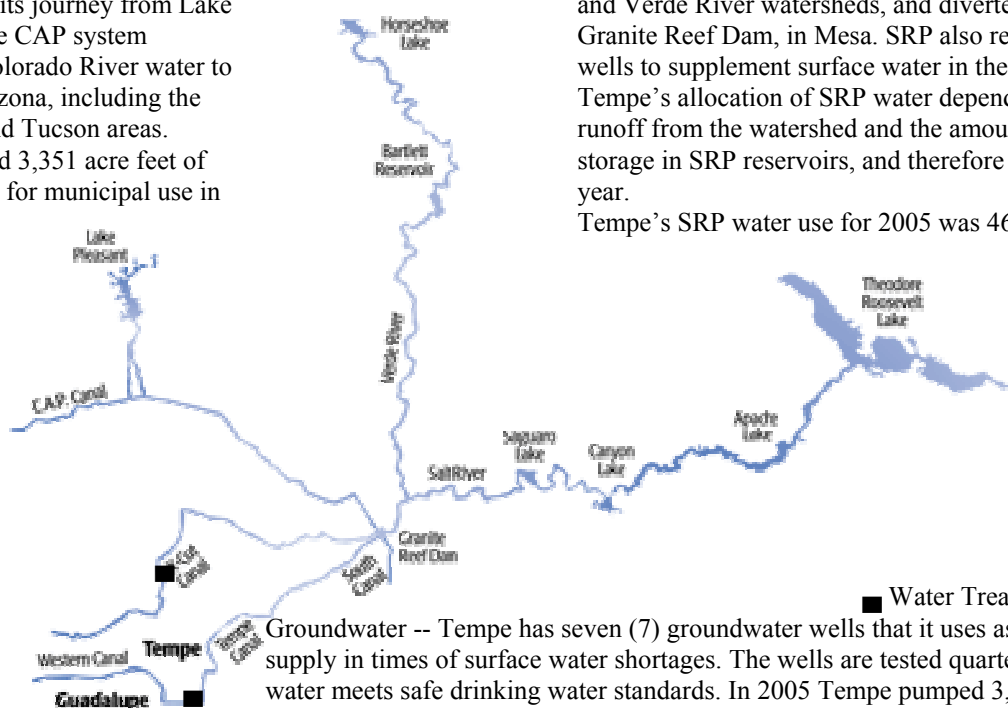
In 2005, your water department distributed 17.4 billion gallons of water to Tempe and Guadalupe customers. In addition to testing that we are required to perform, our water system voluntarily tests for hundreds of additional substances and microscopic organisms to make certain our water is safe and of 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, the CAP system delivers Colorado River water to central Arizona, including the Phoenix and Tucson areas. Tempe used 3,351 acre feet of CAP water for municipal use in 2005.

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. SRP also relies on groundwater wells to supplement surface water in their canal system. Tempe's allocation of SRP water depends on the amount of runoff from the watershed and the amount of water available in storage in SRP reservoirs, and therefore varies from year to year. Tempe's SRP water use for 2005 was 46,415 acre feet.



Groundwater -- Tempe has seven (7) groundwater wells that it uses as a back-up water supply in times of surface water shortages. The wells are tested quarterly to assure that the water meets safe drinking water standards. In 2005 Tempe pumped 3,695 acre feet of groundwater.

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 that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

Substance	Unit	MCL	MCLG	Average Level	Range	Major Sources
Arsenic	ppb	10	-	3.2	ND – 6.1	Erosion of natural deposits
Barium	ppm	2	2	0.061	0.044 – 0.11	
Chloride	ppm	No MCL	-	190	13 - 310	
Chlorine	ppm	4.0 MRDL	4 MRDLG	0.73	0.07 – 1.71	Disinfectant added to control microbial contaminants.
Chromium	ppb	100	100	1.3	ND - 18	Erosion of natural deposits
Coliform (Total)	% of Samples	<5	0	2.1*	0 – 2.1	Naturally present in the environment
Coliform (Fecal)	# of Samples	-	-	0	-	
Copper (2003) (90'th percentile)	ppm	AL = 1.3	1.3	(0.33)	ND – 1.0	Corrosion of household plumbing systems.
Lead (2003) (90'th percentile)	ppb	AL = 15	0	(8.9)	ND - 76	
7 households above the Action Level for Lead, 105 households tested.						
Fluoride	ppm	4	4	0.43	0.10 – 0.82	Erosion of natural deposits; Water additive which promotes strong teeth
Gross Alpha	pCi/L	15	0	1.8	0.1 – 6.0	Erosion of natural deposits
Gross Beta	pCi/L	50 [#]	0	3.5	ND – 7.7	Decay of natural and man-made deposits
Nitrate	ppm	10	10	0.9	ND – 7.3	Runoff from fertilizer use.
Radon	pCi/L	No MCL	-	33	ND - 580	Erosion of natural deposits
Selenium	ppb	50	50	1.0	ND – 1.7	
Sodium	ppm	No MCL	-	150	44 - 370	
Sulfate	ppm	No MCL	-	72	54 - 130	
Tetrachloroethylene	ppb	5	0	< 0.5	ND – 0.5	Discharge from factories, dry cleaners and metal degreasing sites.
Trichloroethylene	ppb	5	0	< 0.5	ND – 0.5	
Turbidity	NTU	TT = 0.3	-	0.06	0.02 – 0.24	Soil runoff into canals
		TT=percentage of samples <0.3 NTU		100%**	100%	
Total Organic Carbon	ppm	TT	-	3.7	ND – 8.9	Naturally present in the environment
Total Haloacetic acids	ppb	Annual average of 60		34.9	ND – 71.7	By-products of drinking water chlorination
Total Trihalomethanes	ppb	Annual average of 80		74.1	ND - 143	
Uranium	ppb	30	0	1.8	0.3 – 10.1	Erosion of natural deposits

Key To Table

NTU = Nephelometric Turbidity Units

* Maximum monthly average value

pCi/L – picocuries per liter a measure of radiation

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

** Minimum monthly average value

ND – not detected

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

50 pCi/L is equivalent to 4 mrem/yr

Lead and Copper average value is the 90'th percentile value

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).

Cryptosporidium - The City of Tempe has sampled our drinking water for the presence of the protozoan Cryptosporidium. Though rarely, Cryptosporidium has been identified in the source water we receive, it has never been detected in our finished water supply.

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 that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration 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 in tap water and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). Information on bottled water can be obtained from the Food and Drug Administration.

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 the following:

- (A) Microbial contaminants, such as viruses and bacteria, that may be from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.
- (B) 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.
- (C) Pesticides and herbicides, that 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, that 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, that can be naturally-occurring or can 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, persons 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).

Health Effects Language

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.

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 to 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.

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/lab.htm and, for further information, see U.S. Environmental Protection Agency (EPA) water information at www.epa.gov/safewater. Questions about your water , 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. For more information, please contact Sherman McCutcheon at (480) 350-2644, or the Tempe Water Utilities Department, P.O. Box 5002, Tempe, Arizona, 85280

Substance of Interest	Unit	Average Value	Range of Values
Alkalinity	ppm	130	56 - 210
Aluminum	ppm	0.48	0.20 – 0.86
Bromide	ppm	0.06	ND – 0.30
Boron	ppm	0.14	0.11 – 0.65
Calcium	ppm	53	42 - 100
Hardness	ppm	190	69 - 290
Hardness	grains/gallon	11	4 - 17
Iron	ppm	0.06	ND – 1.1
Manganese	ppb	2	ND - 17
Magnesium	ppm	22	16 - 44
Nickel	ppb	< 5	ND - 46
Potassium	ppm	6.5	4.8 – 8.5
pH	pH units	7.8	7.2 – 9.0
Silica	ppm	14	9 - 32
Total Dissolved Solids	ppm	560	180 - 780
Zinc	ppb	22	ND - 38



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