



City of Chandler
Municipal Utilities Department
Mail Stop 415
PO Box 4008
Chandler, Arizona 85244-4008

PRSR STD
ECRWSS
U.S. POSTAGE PAID
CHANDLER, AZ
PERMIT No. 1

Postal Customer Chandler, AZ

*Este informe contiene información muy importante sobre su agua beber.
Tradúzcalo ó hable con alguien que lo entienda bien.*

City of Chandler

2005

ANNUAL DRINKING WATER QUALITY REPORT



Water Fun at Espee Park





The City of Chandler Municipal Utilities Department is committed to providing a safe supply of drinking water to our customers. As a result of this strong commitment, the City of Chandler routinely performs more tests on the water residents receive than is required by law. We are proud to report that Chandler's water meets, or exceeds, all health and safety standards set by the county, the state, and the federal government regulatory agencies for 2005. This brochure provides valuable information about your drinking water, including information about its source and quality.

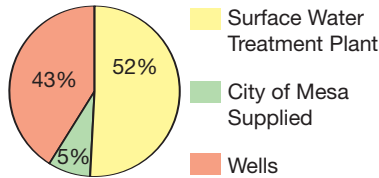
About Your Water Supply

The drinking water distributed by the City of Chandler to its customers comes from three sources: Chandler's Surface Water Treatment Plant, groundwater, and Central Arizona Project (CAP) exchange water from Mesa.

- The Surface Water Treatment Plant treats and disinfects water from the Salt River, Verde River, the CAP (Colorado River), and Salt River Project (SRP) wells that transport water to Chandler through the Consolidated Canal.
- 25 wells supply groundwater from aquifers underlying Chandler. Groundwater is disinfected with chlorine prior to being introduced into the City's water distribution system.
- Chandler receives water from the City of Mesa as part of an agreement to treat and distribute Colorado River water from the Central Arizona Project.

City of Chandler Water Supply Statistics

- 19.2 billion gallons of drinking water was supplied to Chandler water users in 2005. (An average of 52.6 million gallons each day!)
- Chandler's Surface Water Treatment Plant produced 9.9 billion gallons, which is 52 % of the City's total drinking water.
- Groundwater wells produced 8.3 billion gallons, which is 43 % of the City's total drinking water.
- The City of Mesa supplied 1.0 billion gallons, which is 5 % of the City's total drinking water.



Drinking Water and Your Health



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 (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

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. USEPA/Centers for Disease Control (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 at 1-800-426-4791.

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:

- 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 result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Information on these regulations may be obtained by calling the FDA at 1-888-463-6332.

Contaminants of concern for drinking water are subject to regulatory requirements for analysis on three-year cycles. The City of Chandler sampled all of its water sources for applicable contaminants in 2003.

Cryptosporidium and Giardia

The City of Chandler routinely samples its water for the presence of the protozoans *Cryptosporidium* and *Giardia*. Though rare, *Cryptosporidium* and/or *Giardia* have been identified in the source water Chandler receives from the Consolidated Canal. They have never been detected in 'finished' water provided to Chandler residents. The filtration system in the City's Surface Water Treatment Plant exceeds EPA requirements for removal of *Cryptosporidium* and *Giardia*.

Nitrate

The highest nitrate level measured in Chandler's water during 2005 was 9.1 parts per million (ppm). The average was 3.8 ppm, well below the USEPA limit of 10 ppm. 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. During 2005, we did not collect annual nitrate monitoring samples from two wells, and therefore cannot be sure of the quality of your drinking water during that time. We became aware of the omission of annual nitrate monitoring for the two wells on March 8, 2006. The procedures for adding new water sources to the drinking water monitoring schedule was updated to ensure we comply with the regular monitoring requirements for nitrate. Nitrate samples collected from these wells prior to and after the missed annual samples indicate a maximum nitrate concentration of 3.5 mg/L, well below the maximum contamination level of 10 mg/L.

Radon

Radon is a naturally occurring radioactive gas formed by the natural decay of uranium and radium in the earth. In November 1999, the EPA proposed regulations limiting the amount of radon in drinking water. At the time of this

writing, the final radon level has not been announced, but the proposed maximum contaminant level for radon in Arizona is 4000 picocuries per liter (pCi/L). The City of Chandler tested all its water sources for radon in 1999 and 2000. The average radon concentration is less than 300 pCi/L for all water sources, and the average for any individual well does not exceed 1500 pCi/L.

MTBE

To improve air quality in the Phoenix Metropolitan area, an oxygenating compound, Methyl Tertiary Butyl Ether (MTBE), is added to gasoline to reduce automobile exhaust emissions. MTBE contamination has occurred in water supplies nationally. The City of Chandler tested all its water sources for MTBE in 2003 and is pleased to announce MTBE was not detected in our water.

Arsenic

The EPA finalized new regulations for arsenic in drinking water in 2001. These new regulations became effective January 23, 2006 and lowered the maximum contaminant level (MCL) for arsenic from 50 parts per billion (ppb) to 10 ppb. The City has achieved compliance with the new standard at the Surface Water Treatment Plant and many of the water supply wells. Where required, the City has developed a plan to construct arsenic treatment systems. These facilities are intended to ensure all water production wells meet the new arsenic standard. They will be built and placed into operation throughout 2006. 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.

Lead and Copper Testing

Lead and copper in drinking water is derived from either naturally occurring deposits or from the corrosion of household plumbing systems. Federal regulations require all cities test for lead and copper at selected customer's taps at least once every three years. Chandler last conducted lead and copper tap sampling in the summer of 2004. The next round of lead and copper sampling will be in June-September 2007. Concentrations of lead and copper in the City's drinking water are well below regulatory levels.

Turbidity

Turbidity is the cloudiness of the water. Turbidity has no health effects, however, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of our filtration system.

Protecting Chandler's Water Supply



Backflow Prevention

The City of Chandler has a backflow prevention program that ensures proper installation and maintenance of thousands of backflow prevention devices throughout the City. These devices ensure hazards originating on customers' premises and from temporary connections do not impair or alter the water in the City's water distribution system. The return of any water to the City's water distribution system after the water has been used for any purpose on the customer's premises or within the customer's piping system is unacceptable. Backflow prevention devices range from vacuum breakers on household hose bibs to large commercial reduced-pressure principal devices found throughout the City.

Source Water Assessment and Protection Program (SWAP)

The Arizona Department of Environmental Quality (ADEQ) completed a

source water assessment for drinking water wells and surface water sources for Chandler's public water system in 2005. The assessment reviewed adjacent land uses that may pose a potential risk to water sources. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agriculture fields, wastewater treatment plants, and mining activities. Once ADEQ identified the adjacent land uses, they were ranked on their potential to affect the water source.

The assessment has designated water from the CAP aqueduct as having high risk because the source water is often stored in Lake Pleasant prior to being transported for treatment. There have been reportable releases or spills of a substance at a facility near the Lake that have not been reported as being remediated. The spill at this facility makes the CAP source water susceptible to potential future contamination.

Two of Chandler's drinking water wells were deemed high risk based on adjacent land use criteria. The Chandler public water system conducts regular monitoring of drinking water entering the water distribution system to determine if land uses have impacted the source water. If any contaminant approaches the drinking water MCL, the well is remediated or removed from service.

ADEQ has re-assessed the source water from SRP canals and plans to distribute the revised Source Water Assessment Program after July 1, 2006. Since Chandler uses SRP canal water, the revised Source Water Assessment information will be included in the appropriate Annual Water Quality Report.

The complete report is available for inspection at ADEQ, 1110 W. Washington, Phoenix, Arizona 85007, between the hours of 8:00 a.m and 5:00 p.m. Electronic copies are available from ADEQ at dml@azdeq.gov. For more information, visit ADEQ's Source Water Assessment and Protection Unit website at www.azdeq.gov/environ/water/dw/swap.html, or contact the City of Chandler Water Quality Division at 480-782-3660. You can also visit our website at www.chandleraz.gov.

You and Your Water Supply

Stormwater runoff from polluted areas can find its way into rivers and underground water supplies. It requires considerable expense and effort to restore a water supply to a usable drinking water source once it has become polluted. Pollution prevention requires a collective effort, saves money, preserves limited water resources, and helps ensure a safe drinking water supply. Let government representatives know that protective laws and adequate funding for research, inspection, and enforcement are important to you.

Guidelines for Everyday Pollution Prevention:

- Use fertilizers and pesticides sparingly and support other practices that protect your watershed.
- Pick up after your pet and don't dispose of any waste in washes, canals, or riverbeds.
- Minimize your purchase and use of hazardous products. Dispose of unused quantities properly.
- Take used motor oil and similar fluids to the City's Household Hazardous Waste Collection center.

Seasonal Changes in Flavor

The flavor of Chandler's water may change at certain times of the year, depending on the water source. For example, late summer algae growing in canals may give the water a slightly musty flavor. You also may detect a change in the taste of the water when Chandler switches to well water as its primary source. This normally happens when SRP dries up canals for routine maintenance.

Chandler works with SRP to minimize algae in the canal system and provides treatment at the Surface Water Treatment Plant to help reduce off-flavors and odors. Also, the flavor of Chandler's water is monitored by a "Flavor Panel" that meets weekly to taste and evaluate water samples from a variety of sources. Members of this panel are trained to recognize different flavors and odors. Many treatment plant changes made to enhance the quality of the water are based on recommendations from this panel.

Who do I Contact with Questions About Chandler's Drinking Water?

If you have any questions about your tap water or the information in this report, please call 480-782-3660 during normal business hours (8:00 a.m. to 5:00 p.m., Monday through Friday). You can also visit our website at <http://www.chandleraz.gov>.

Citizens who wish to address the City Council about water issues may do so at regularly scheduled City Council meetings normally held the 2nd and 4th Thursdays of each month. The location is the Downtown Library, 22 S. Delaware St., 2nd floor, City Council Chambers. For information about specific meeting times and agenda items, please contact the City Clerk office at 480-782-2180, or visit www.chandleraz.gov and click on Council Agenda in the Quicklinks section of the home page.

* Detected Regulated Contaminants 2003, 2004, 2005:

Contaminant (units)	MCL	MCLG	Average (of samples)	Range Low to high)	Likely Source
Arsenic (ppb) (2005)	50	N/A	7.5	<1 – 11	Erosion of natural deposits
Barium (ppm) (2005)	2	2	0.05	<0.01 – 0.14	Erosion of natural deposits
Chromium (ppb) (2005)	100	100	15	<1 – 29	Erosion of natural deposits
Fluoride (ppm) (2005)	4	4	0.63	0.24 – 1.3	Natural deposits; water additive that promotes strong teeth
** Nitrate (ppm) (2005)	10	10	3.8	<0.1 – 9.1	Erosion of natural deposits
Di(2-ethylhexyl) phthalate (ppb) (2005)	6	0	3	<0.6- 19	Plastic pipes
Alpha Emitters (pCi/L) (2005)	15	0	3.4	1- 6	Erosion of natural deposits
Combined Radium (pCi/L) (2003-2005)	5	0	0.04	<0.3 – 0.6	Erosion of natural deposits
Uranium (ppb) (2003-2005)	30	0	2.3	<0.779 – 11.5	Erosion of natural deposits

Distribution System Detections 2005:

Contaminant	Units	Maximum Contaminant Level	MCLG	Results	Sources in Drinking water
Total Coliform Bacteria		No more than 5 % of the monthly samples may be total coliform positive Annual percentage Monthly Range (low to high)	0.0 %	0.35 % 0 – 2.29 %	Naturally present in the environment
Chlorine (Distribution System)	ppm	Maximum 4.0 mg/L Minimum Trace Amount (MRDL = Annual moving average)	MRDLG 4.0	1.4 annual avg. 0.1 minimum	Water additive used to control microbes
Turbidity	NTU	TT = 1.0 NTU MAX TT = < or = 0.3 NTU 95% of the time	N/A	0.39 99.8 %	Soil runoff
(TTHMs) Total Trihalomethanes	ppb	80 Running Annual Average Range (low to high)	N/A	65.8 1.2 - 170	By-product of drinking water disinfection
Haloacetic Acids (HAA) (ppb)	ppb	Running Annual Average of 60 ppb Range (low to high)	N/A	30.8 1.2 – 95	By-product of drinking water disinfection

Lead and Copper Study 2004:

Contaminant (units)	Maximum Contaminant Level	MCLG	Results	Sources in Drinking water
Lead (ppb)	Action level =15 ppb 90th percentile Number of sites exceeding action level	0 mg/L	5.3 1	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	Action level = 1.3 mg/L 90th percentile Number of sites exceeding action level	1.3 mg/L	0.23 0	Corrosion of household plumbing systems; Erosion of natural deposits

Notes:

* The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative, is more than one year old. Tables contained in this brochure may summarize analytical tests conducted on Chandler's drinking water in 2003, 2004, 2005, or any combination of those years.

** 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 advice from your health care provider.

Definitions:

Parts per million (ppm): Parts per million are a measurement of concentration of substances dissolved in water. One ppm is equivalent to one gallon in one million gallons.

Parts per billion (ppb): Parts per billion are a measurement of concentration of substances dissolved in water. One ppb is equivalent to one gallon in one billion gallons. A ppb is one thousand times smaller than a ppm.

Picocuries per liter (pCi/L): A measure of the radioactivity of a substance.

Nephelometric Turbidity Unit (NTU): A measurement of the relative clarity of drinking water.

Non-Applicable (N/A): EPA has not set MCLs or MCLGs for these substances.

Maximum Contaminant Level (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 (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 (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.

Maximum Residual Disinfectant Level Goal (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.

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

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

Average (of samples): The average of all samples taken during the monitoring period.

Range (low to high): The lowest analytical result reported to the highest analytical result reported. All other analytical results fall between these two numbers.