

**** Detected Regulated Contaminants 2009:**

Contaminant (units)	MCL	MCLG	Average (of samples)	Range (Low to high)	Likely Source
Arsenic (ppb)	10	N/A	6.3	<1.0 - 10.5	Erosion of natural deposits
Barium (ppm)	2	2	0.08	<0.002 - 0.14	Erosion of natural deposits
Chromium (ppb)	100	100	13	<1 - 32	Erosion of natural deposits
Copper (ppm)	AL=1.3	1.3	0.008	<0.001 - 0.14	Erosion of natural deposits
Fluoride (ppm)	4	4	0.60	0.19 - 1.4	Natural deposits; water additive that promotes strong teeth
Nitrate (ppm)	10	10	3.8	<0.2 - 8.7	Erosion of natural deposits
2,4-D (ppb)	70	70	0.003	<0.1 - 0.18	Herbicide runoff
Dalapon (ppb)	200	200	0.21	<1.0 - 3.3	Herbicide runoff
Di(2-ethylhexyl)Adipate (ppb)	400	400	0.04	<0.6 - 2.5	Discharge from chemical factories
Di(2-ethylhexyl) Phthalate (ppb)	6	0	0.21	<0.6 - 4.3	Plastic pipes
Alpha Emitters (pCi/L)	15	0	1.1	<1- 4.0	Erosion of natural deposits
Uranium (ppb)	30	0	1.7	<1.4 - 4.7	Erosion of natural deposits

Distribution System Detections 2009:

Contaminant	Units	Maximum Contaminant Level	MCLG	Results	Sources in Drinking water
Total Coliform Bacteria		No more than 5% of monthly samples may be total coliform positive Annual Percentage Monthly Range (low to high)	0.0 %	0.2% 0.0% - 1.2%	Naturally present in the environment
Chlorine (Distribution System)	ppm	Maximum 4.0 mg/L Minimum Trace Amount (MRDL = Annual Moving Average)	MRDLG 4.0	1.2 annual avg. 0.4 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	0.50 99.8%	Soil runoff
(TTHMs) Total Trihalomethanes	ppb	80 Running Annual Average Range (low to high)	N/A	41.0 <0.5 - 110	By-product of drinking water disinfection
Haloacetic Acids (HAA)	ppb	60 Running Annual Average Range (low to high)	N/A	17.0 <2.0 - 49	By-product of drinking water disinfection

*** Lead and Copper Study 2007:**

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	3.4 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	0.20 0	Corrosion of household plumbing systems; Erosion of natural deposits

Notes:
 * The state allows water systems 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 2007 or 2009.
 ** Some average values are less than the low range due to substituting non-detect (<) values with zero, per the regulations governing compliance calculations.
 *** The Arizona Department of Environmental Quality (ADEQ) drinking water regulations allowed monitoring waivers for certain SOC contaminants in 2009.

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.
 Parts per trillion (ppt): Parts per trillion are a measurement of concentration of substances dissolved in water. One ppt is equivalent to one gallon in one trillion gallons.
 Picouries 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 to reduce the level of a contaminant in drinking water.
 Action Level (AL): 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.



2009 Annual Drinking Water Quality Report

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien con quien lo entienda bien.

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 Where Values Make The Difference

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 issue this report annually describing the quality of your drinking water to comply with state and U.S. Environmental Protection Agency (USEPA) regulations. Much of the language used is mandated by these regulations. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect your drinking water sources. We are proud to report that Chandler's water meets, or exceeds, all health and safety standards set by the county, state, and federal government regulatory agencies for 2009. This brochure provides valuable information about your drinking water, including information about its source and quality. In order to maintain a safe and dependable water supply, we sometimes need to make improvements that will benefit all our customers. These improvements are sometimes reflected as rate structure adjustments.

About your Water Supply

The drinking water distributed by the City of Chandler to its customers comes from three sources.

- 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.
- 26 active wells supply groundwater from aquifers underlying Chandler. Groundwater is disinfected with chlorine prior to being introduced into the City's water distribution system.
- The City of Chandler and the Town of Gilbert entered into a partnership to construct the Santan Vista Water Treatment Plant located in the Town of Gilbert. The result of this partnership is an additional source of water for our customers. This facility currently treats and distributes up to 12 million gallons per day of Colorado River water from the Central Arizona Project to each city

City of Chandler Water Supply Statistics

- 19.5 billion gallons of drinking water was supplied to Chandler water users in 2009. (A daily average of 53.4 million gallons!)
- Chandler's Surface Water Treatment Plant produced 10.9 billion gallons, which is 56% of the City's total drinking water.
- Groundwater wells produced 7.0 billion gallons, which is 36% of the City's total drinking water.
- The Santan WTP supplied 1.6 billion gallons, or 8% 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 2009.

Cryptosporidium and Giardia

The City of Chandler sampled its water for the presence of the protozoans *Cryptosporidium* and *Giardia* in 2005. Though rare, *Cryptosporidium* and/or *Giardia* have been identified in the source water Chandler receives from the Consolidated Canal. 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 2009 was 8.7 parts per million (ppm). The average was 3.8 ppm, which is well below the USEPA limit of 10 ppm. 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.

Pharmaceuticals and personal care products (PPCPs)

Recent media reports have highlighted the presence of pharmaceuticals in municipal water supplies. A study was undertaken for a small group of the PPCPs. Although the study was limited in scope and scale it did detect trace amounts of estrogen related hormones at part per trillion concentrations (one part per trillion is equivalent to one drop of water in twenty Olympic-sized swimming pools). Even the world's best scientists don't yet know what the presence of these substances in water mean to human health. In fact, most commercial laboratories are not even equipped to analyze for these compounds yet. Consequently, USEPA has no current or proposed regulations for these substances. If future research indicates that certain substances should be removed from water, we will work to find the best method of removal.

Arsenic

Chandler has constructed arsenic treatment systems on all wells with arsenic levels that were close to, or above, the maximum contaminant level (MCL) of 10 parts per billion (ppb), as set by regulations that became effective on January 23, 2006. Compliance with this MCL is based on a running annual average, which for 2009 was 7.0 ppb. Some people who drink water that contains 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

Federal regulations require all cities test for lead and copper at selected customer's taps at least once every three years. The City of Chandler last conducted lead and copper tap sampling in the summer of 2007, with the concentrations of lead and copper well below regulatory limits. The next round of lead and copper sampling will be in June-September 2010. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Chandler is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

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.

Synthetic Organic Chemicals (SOCs)

The Arizona Department of Environmental Quality (ADEQ) granted The City of Chandler monitoring waivers for glyphosate at seven water production facilities and dioxin at 26 water production facilities.

Total Trihalomethanes (TTHMs)

Some people who drink water that contains trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

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 customer's property and from temporary connections do not impair or alter the water in the City's water distribution system. 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 designated water coming from the CAP aqueduct as 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 considered 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.

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 <http://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 <http://www.chandleraz.gov>.

You and your Water Supply

Stormwater runoff from polluted areas finds its way into the storm drain system, or directly to a lake, stream, river, wetland, retention basin, or canal. Stormwater picks up debris, chemicals, dirt, and other pollutants as it runs over driveways, lawns, sidewalks, and streets. It is important to know that in the desert Southwest, stormwater is not treated. Considerable expense and effort are required 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 – "Only Rain In The Storm Drain"

- Use fertilizers and pesticides sparingly and as directed by the manufacturer.
- Pick up after your pet and do not dispose of any waste in washes, canals, or riverbeds.
- Only wash your car on a lawn or other unpaved surface, or use a commercial car wash.
- Always use a nozzle when using your garden hose around the home. Do not let the water free flow.
- Maintain vehicles, machinery, and equipment to be free of leaks.
- Sweep up dirt and debris, rather than using a hose.
- Do not over-water your lawn.
- Call 480-782-3507 or visit www.chandleraz.gov for proper pool draining procedures.
- Minimize your purchase and use of hazardous products. Dispose of unused quantities properly.
- Please contact Solid Waste Services at 480-782-3510 for proper disposal guidelines of hazardous waste materials such as used motor oil and other similar fluids.

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, algae blooms in canals during the summer months 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 usually happens when SRP dries up canals for routine maintenance.

Chandler works with SRP to minimize algae in the canal system and to provide treatment at the Surface Water Treatment Plant to reduce off-flavors and odors. Also, a "Flavor Panel" meets weekly to monitor the 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 Thursday of each month. The meetings are held at 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's office at 480-782-2180, or visit www.chandleraz.gov and click on Council Agenda in the Quicklinks section of the home page.