



Chandler Heights Citrus Irrigation District Annual Water Quality Report for Calendar Year 2008

What's in your water?

This is the report where we let you know. All public water systems are required to report to customers every year about drinking water quality. We perform hundreds of tests each year, under guidelines set by the U.S. Environmental Protection Agency (EPA) and Arizona Department of Environmental Quality (ADEQ). This report summarizes those test reports and provides you with additional information about CHCID drinking water and water operations.

CHCID water met or exceeded all of the EPA and ADEQ standards for drinking water during 2008, and the District continues to be vigilant about land use changes and Arizona water issues in order to anticipate any changes that could affect our drinking water quality or quantity in the future.

Este informe contiene informacion importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Where does your water come from?

CHCID drinking water comes from two wells near Power and Riggs. Well 5 is our primary source for drinking water. Well 6 is our backup well, and it is only used when well 5 is not available. The water table is about 300 feet below the surface and has remained stable for more than a decade. We draw our water from a large aquifer system that is underneath all the communities in the East Valley.

From the wells water goes to the treatment plant on Valencia, where the District office is located. The water is chlorinated and goes into two storage tanks. From the tanks it goes through a pump that sends it to your home.

Disinfection of your drinking water is done with chlorine. The chlorine level in the water sent out to your home is maintained at 0.50 -0.80 ppm. The pressure in the system is 60-70 psi.

We also have an emergency system that lets us get water from Queen Creek Water Company instead of our own wells. This report does not talk about the water from Queen Creek Water Company because we use their water so rarely that it is not significant.

What's in the water besides water?

A contaminant is anything in the water besides water. All drinking water contains at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. For more information about contaminants and potential health effects you can call the EPA's Safe Drinking Water Hotline (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 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 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, stormwater runoff, and residential uses.

- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and ADEQ make regulations which 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 which must provide the same protection for public health.

Nitrates and arsenic are two contaminants we watch very carefully. In this area nitrates come mostly from septic systems and fertilizer, and arsenic is naturally occurring.

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.

While our drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. The 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.

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. CHCID is responsible for providing high quality drinking water, but cannot control the

variety of materials used in plumbing components in your home. 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 drinking water, you may wish to have the water in your home 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>.

Do you need to take special precautions?

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 all infants can be at higher risk. These people should seek advice about drinking water from their health care providers.

Backflow

Plumbing cross-connections, which are defined as actual or potential connections between a potable and non-potable water supply, constitute a serious public health hazard. There are numerous, well-documented cases where cross-connections have been responsible for contamination of drinking water, and have resulted in illness or the spread of disease.

Control of cross-connections is possible, but only through thorough knowledge and vigilance. Education is essential, for even those who are experienced in piping installations fail to recognize cross-connection possibilities and dangers. All municipalities with public water supply systems should have cross-connection control programs.

CHCID does have a backflow prevention program and does require some customers to install backflow prevention devices and have them tested annually.

What do we test?

CHCID works to ensure water quality by performing numerous tests on a regular basis. Some tests we perform several times a week. EPA and ADEQ set minimum frequency requirements for different tests, and they vary from monthly to every 3 years. The most common tests fall under the following categories:

Total Coliform Tests: Tests for coliform bacteria are performed at specific places throughout the system each month.

Chlorination: Chlorine is added to our water supply as a disinfectant. We test several times a week at the treatment plant to ensure the chlorine level remains correct. We also test monthly at the four corners of the District farthest from the treatment plant.

Inorganic Chemicals: Inorganics include metals, such as arsenic and mercury; chemical compounds, such as nitrate and nitrite; and various other substances used to determine drinking water quality. We test inorganics every 3 months to every 3 years.

Organic Chemicals: These come primarily from pesticides, gas stations, stormwater runoff, and industrial waste. Most of them are tested every 3 years.

All of the common tests for contaminants in water are reported in parts per million or parts per billion; an indication of how low the contaminant levels are in drinking water. If you would like more information about CHCID's water quality, or operations in general, please contact us.

CHCID
P.O. Box 9038
Chandler Heights, AZ 85227

Office 480-988-2731
Fax 480-988-4015
www.chcid.org

Jolliien Williams, Office Manager
Patrick O'Malley, Certified Operator

Water Quality Data Tables for 2008

Regulated Contaminants Measured at the Treatment Plant					
Contaminant	MCL	MCLG	Detected Range	Meets Standard	Typical Sources
Nitrate (ppm)	10	10	5.5 – 6.6	yes	Runoff from septic tanks, sewage, fertilizer, naturally occurring.
Arsenic (ppb)	10	0	6 - 9	yes	Mining, erosion of natural deposits.
Barium (ppm)	2.0	2.0	0.047	yes	Discharge of drilling wastes, discharge from metal refineries, naturally occurring.
Chromium (ppb)	100	100	3.9	yes	Discharge from steel and pulp mills, naturally occurring.
Fluoride (ppm)	4.0	4.0	0.46	yes	Naturally occurring, discharge from fertilizer and aluminum factories. Also a water additive which promotes strong teeth.

Regulated Contaminants Measured in the Distribution System					
Contaminant	MCL	MCLG	Detected Range	Meets Standard	Typical Sources
Haloacetic Acids (ppb)	60	NA	1.5	yes	Byproduct of chlorine disinfection.
Trihalomethanes (ppb)	80	NA	15	yes	Byproduct of chlorine disinfection.
Chlorine (ppm)	4.0	4.0	0.36 –	yes	Water additive used to control

			0.77		microbes.
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Regulated Contaminants Measured at Residents Water Taps						
Contaminant	Action Level	MCLG	90th Percentile	Number of Samples	Meets Standard	Typical Sources
Lead	15 ppb	NA	2 ppb	20	yes	Corrosion of household plumbing, erosion of natural deposits.
Copper	1.3 ppm	NA	0.05 ppm	20	yes	Corrosion of household plumbing, erosion of natural deposits, leaching of wood preservatives.

Unregulated Contaminants Measured at the Treatment Plant		
Contaminant	Detected Range	Typical Sources
Sodium (ppm)	130	For information only.
pH	7.7 – 8.0	For information only.
Hardness (ppm)	200	For information only. 145 ppm from calcium and 55 ppm from magnesium, as CaCO ₃ equivalents. Equivalent to 11.7 grains per gallon.

In addition to the substances shown in the tables above, the following substances were also tested for and either not found or found at such a low level that there are no useful numbers to report. Total coliform bacteria, cadmium, mercury, selenium, antimony, beryllium, cyanide, nickel, thallium, 1,1-dichloroethelene, 1,1,1-trichlorethane, 1,1,2-trichlorethane, 1,2-dichlorethane, 1,2-dichloropropane, benzene, carbon tetrachloride, cis-1,2-dichlorethane, ethylbenzene, (mono) chlorobenzene, 0-dichlorobenzene, para-dichlorobenzene, styrene, tetrachloroethylene, toluene, trans-1,2-dichloroethylene, trichloroethylene, vinyl chloride, xylenes, 1,2,4-trichlorobenzene, dichloromethane.

Some of the test results shown in the tables above may have been done in a year prior to 2008 because EPA and ADEQ only require tests for some contaminants to be performed every 3 years.

MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to MCLG's as feasible using the best available treatment technology.

MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

ppm: Parts per million or milligrams per liter (mg/l)

ppb: Parts per billion or micrograms per liter (µg/l)

VIOLATIONS: CHCID had no monitoring or water quality violations during 2008.