



Chandler Heights Citrus Irrigation District Annual Water Quality Report For Calendar Year 2017

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

What's in your water?

CHCID water met or exceeded all EPA and ADEQ standards for drinking water during 2017. We perform hundreds of tests each year to comply with regulations set by the U.S. Environmental Protection Agency (EPA) and Arizona Department of Environmental Quality (ADEQ). This report summarizes those test results and provides you with additional information about CHCID drinking water and water operations.

Where does our water come from?

CHCID drinking water comes from wells. The water table is about 300 feet below the surface and has remained stable for more than a decade. Arizona is in a long term drought, but Central Arizona Project water helps to keep the water table stable for a large aquifer system that is underneath all the communities in the East Valley.

Well 5 is our primary source for drinking water. Well 6 is normally used for irrigation, but it is the backup drinking water source. The District continually monitors land use changes and water issues, especially near our wells, to anticipate any changes that could affect our water supply in the future.

Water goes from the well 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 is pumped to your home.

Disinfection of your drinking water is done with chlorine. The chlorine level in the water at the plant is approximately 0.75 ppm. The water pressure at your home is

60-90 psi, depending on where in the District you live.

We also have a connection that lets us get water from the Town of Queen Creek water system in an emergency. The connection is tested regularly, but has not been used to supply drinking water to CHCID residents for years.

What's in the water besides water?

A contaminant is anything in the water besides water. All water, including bottled water, contains small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

As water travels over the surface of the land or through the ground it dissolves naturally occurring minerals, possibly radioactive, and can pick up substances resulting from animal or human activity. Eventually it works its way down through the ground and into the aquifer we use.

Common contaminants in source water include:

- Microbial contaminants, such as viruses and bacteria, which come from sewage treatment plants, septic systems, livestock, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from storm water runoff, industrial or residential wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which come from agriculture, storm water runoff, and residential use.
- Organic chemical contaminants which come from gas stations, storm water runoff, septic systems and are byproducts of industrial processes.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

EPA and ADEQ set limits on the levels of over 80 possible contaminants to guarantee water from public water systems is safe. The EPA list changes over time as new information comes to their attention. For more information about contaminants and potential health effects call the EPA's Safe Drinking Water Hotline (1-800-426-4791).

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. It's possible for nitrate levels to 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 about drinking water from your health care provider.

CHCID drinking water contains low levels of arsenic but meets the EPA standard. Arsenic is a mineral known to cause cancer in humans at high concentrations and is linked to other health problems such as skin damage and circulatory problems.

CHCID also tests for lead and copper in drinking water. Lead and copper in drinking water usually comes from the plumbing materials in your home. CHCID is responsible for providing high quality drinking water, but cannot control the materials used in your home plumbing.

To the best of our knowledge there are no lead components in the CHCID distribution system, and never have been. But there are some older homes in the district that still have some lead pipes or have copper pipes with lead solder.

Elevated levels of lead can cause serious health problems, especially for pregnant women and young children. When your water has been sitting still in the pipes 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 can 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 1-800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Everybody is different

The EPA and ADEQ contaminant rules are written for the general population, but some people are more vulnerable to contaminants than others. Immuno-compromised people, such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV-AIDS or other immune system disorders, some elderly, and all infants can be at a higher risk from some contaminants. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791 or <http://water.epa.gov/drink/hotline>

Backflow/cross connections

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 cases where cross-connections have been responsible for contamination of drinking water, and have resulted in illness or the spread of disease.

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

What do we test?

CHCID ensures water quality by performing numerous tests on a regular schedule. Some tests we perform several times a week. Others are done monthly, annually, or every few years. The EPA and ADEQ set the requirements for how often to test for different contaminants, and they vary from monthly to every 3 years. CHCID exceeds the EPA/ADEQ requirements by performing

more than the required number of tests. The most common tests are:

- **Total Coliform Tests:** Tests for coliform bacteria are performed at multiple locations throughout the system every month. Coliform bacteria are not a health risk, but they are an indicator that disease causing bacteria could be present.
- **Chlorination:** Chlorine is added to our water as a disinfectant. We test several times a week at the treatment plant to ensure the chlorine level is correct. We also test monthly at the four corners of the District.
- **Inorganic Chemicals:** Inorganics include metals, such as arsenic and mercury; chemical compounds, such as nitrate and

nitrite, and various other substances monitored to determine drinking water quality. We test for some inorganics annually and others every few years.

- **Organic Chemicals:** These include pesticides, herbicides, and a long list of industrial chemicals. These tests are done every 3 years.

All of the 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.

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.

AL: Action Level: The amount of a contaminant that, if exceeded, triggers treatment or other actions a community water system must take.

ppm: Parts per million or milligrams per liter (mg/l). As a comparison, 30 seconds is 1 ppm of a year.

ppb: Parts per billion or micrograms per liter (µg/l). 3 hundredths of a second is 1 ppb of a year.

Regulated Contaminants Measured at the Treatment Plant in 2017 or 2015				
Contaminant	MCL	MCLG	Measured	Typical Sources
Nitrate (ppm)	10	10	9.8	Runoff from septic tanks, sewage, fertilizer, naturally occurring.
Arsenic (ppb)	10	0	9.8	Mining, erosion of natural deposits.
Barium (ppm)	2.0	2.0	0.064	Erosion of natural deposits.
Chromium (ppb)	100	100	3.4	Erosion of natural deposits.
Fluoride (ppm)	4.0	4.0	0.40	Naturally occurring or discharge from fertilizer and aluminum factories. Also a water additive which promotes strong teeth.
Gross alpha particles (pCi/L)	15	0	2.15 ± 0.3	Naturally occurring, industrial and mining activity.
Combined radium (pCi/L)	5	0	Less than 0.7	Naturally occurring, industrial and mining activity.
Haloacetic Acids (ppb)	60	NA	14	Byproduct of chlorine disinfection.
Trihalomethanes (ppb)	80	NA	6.1	Byproduct of chlorine disinfection.
Chlorine (ppm)	4.0	4.0	0.63 – 0.96	Water additive used to control microbes.

Unregulated Contaminants Measured at the Treatment Plant in 2017 or 2015		
Contaminant	Measured	
Sodium (ppm)	160	For information only.
pH	7.8 – 8.1	For information only.
Hardness (ppm)	180	For information only. 140 ppm from calcium and 40 ppm from magnesium, as CaCO ₃ equivalents. Equivalent to 10.5 grains per gallon.

Regulated Contaminants Measured at Residents Water Taps in 2015						
Contaminant	Action Level	MCLG	90th Percentile Reading	Number of Samples	Sites Exceeding the Action Level	Typical Sources
Lead (ppb)	15	NA	1.3	11	0	Corrosion of household plumbing, erosion of natural deposits.
Copper (ppm)	1.3	NA	0.04	11	0	Corrosion of household plumbing, erosion of natural deposits, leaching of wood preservatives.

During 2017 CHCID tested for total coliform bacteria 48 times. None of the tests detected bacteria.

The following contaminants were measured in 2015 or 2017 and were either not detected or were present at such low levels that there is no useful data to report.

Cadmium, Mercury, Selenium, Antimony, Beryllium, Cyanide, Nickel, Thallium, 2,4-D, 2,4,5-TP (Silvex), Toxaphene, Alachlor (Lasso), Atrazine, Carbofuran, Pentachlorophenol, Chlordane, Dibromochloropropane, Ethylene dibromide, Heptachlor, Heptachlor epoxide, Lindane, Benzopyrene, Dalapon, Diphthlate, Diadipate, Dinoseb, Dioxin, Diquat, Endothall, Endrin, Glyphosate, Hexachlorobenzene, Hexachlorocyclopentadiene, Oxamyl, Picloram, Simazine, Methoxychlor, Polychlorinated Biphenyls (PCB), Pentachlorophenol, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethane, 1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,4-Dichlorobenzene, Benzene, Bromodichloromethane, Carbon Tetrachloride, Chlorobenzene, Chloroform, dis-1,2-Dichloroethane, Ethylbenzene, m,p-Xylenes, Methylene Chloride, o-Xylene, Styrene, Tetrachloroethene, Toluene, trans-1,2-Dichloroethene, Trichloroethene, Vinyl Chloride

VIOLATIONS: CHCID had two reporting violation in 2017. The August RTRC samples had the wrong date and time on the report sheet. The August disinfection by-products report used the wrong name for the site ID. Both were paperwork mistakes. The lab tests were performed on time and properly.

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