



# Chandler Heights Citrus Irrigation District Annual Water Quality Report For Calendar Year 2023

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

## How is our water?

CHCID water met or exceeded all EPA and ADEQ standards for drinking water during 2023. 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?

Our drinking water comes from wells. The water table is about 300 feet below the surface and has remained stable for more than a decade.

The District monitors land use changes and water issues to anticipate any changes that could affect our water supply.

Water goes from our well to the treatment plant on Valencia, where the District office is located. The water is chlorinated and goes into three 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 40-70 psi, depending on where in the District you live.

We also have a connection that lets us draw 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?

All water contains small amounts of contaminants. The presence of contaminants is not necessarily 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 for drinking water.

Contaminants we worry about include:

- Microbial contaminants, such as viruses and bacteria, which come from septic tanks, livestock, wildlife, and sewage treatment plants.
- Inorganic contaminants, such as metals and salts, which can be naturally occurring or result from industrial or residential wastewater discharges, oil and gas production, mining, farming, or storm water runoff.
- Pesticides and herbicides, which come from agricultural and residential use.
- Organic chemical contaminants which come from gas stations, septic systems, storm water runoff, 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 (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 pediatrician.

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 normally comes from the plumbing materials in your own 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 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

### **Forever Chemicals**

PFAS or forever chemicals are of concern to the EPA. They are currently unregulated but

the EPA expects to have regulations in place by 2027.

We're used to measuring contaminants in parts per million and parts per billion, but PFAS will be the first class of chemicals where we have to measure parts per trillion.

In May, 2023 ADEQ did take samples from CHCID and many other water districts. PFAS were not present or not present at a high enough level to be measurable in CHCID water.

### **How can contaminants affect you?**

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 undergoing chemotherapy, those who have undergone organ transplants, people with 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 EPA/CDC guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline at 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, are 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 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 if they are present then disease causing bacteria could also 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 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.

<b>Regulated Contaminants Measured at the Treatment Plant in 2021 or 2022 or 2023</b>				
<b>Contaminant</b>	<b>MCL</b>	<b>MCLG</b>	<b>Measured</b>	<b>Typical Sources</b>
Nitrate (ppm)	10	10	1.3	Runoff from septic tanks, sewage, fertilizer, naturally occurring.
Arsenic (ppb)	10	0	4.8	Mining, erosion of natural deposits.
Barium (ppm)	2.0	2.0	0.043	Erosion of natural deposits.
Chromium (ppb)	100	100	3.8	Erosion of natural deposits.
Fluoride (ppm)	4.0	4.0	0.68	Naturally occurring or discharge from fertilizer and aluminum factories. Also a water additive which prevents cavities in teeth.
Gross alpha particles (pCi/L)	15	0	Less than 3	Naturally occurring, industrial and mining activity.
Combined radium (pCi/L)	5	0	Less than 0.6	Naturally occurring, industrial and mining activity.
Total Xylenes (ppm)	10	10	0.0011	From petroleum and industrial activity
Haloacetic Acids (ppb)	60	NA	Less than 1	Byproduct of chlorine disinfection.
Trihalomethanes (ppb)	80	NA	Less than 1	Byproduct of chlorine disinfection.
Chlorine (ppm)	4.0	4.0	0.53 – 0.92	Water additive used to control microbes.

<b>Unregulated Contaminants Measured at the Treatment Plant in 2023</b>		
<b>Contaminant</b>	<b>Measured</b>	
Sodium (ppm)	130	For information only.
pH	7.8 – 8.4	For information only.
Hardness (ppm)	100	For information only. 80 ppm from calcium and 20 ppm from magnesium, as CaCO <sub>3</sub> equivalents. Equivalent to 5.8 grains per gallon.

<b>Regulated Contaminants Measured at Residents Water Taps in 2021</b>						
<b>Contaminant</b>	<b>Action Level</b>	<b>MCLG</b>	<b>90<sup>th</sup> Percentile Reading</b>	<b>Number of Samples</b>	<b>Sites Exceeding the Action Level</b>	<b>Typical Sources</b>
Lead (ppb)	15	NA	< 1.0	11	0	Corrosion of household plumbing, erosion of natural deposits.
Copper (ppm)	1.3	NA	0.061	11	0	Corrosion of household plumbing, erosion of natural deposits, leaching of wood preservatives.

During 2023 CHCID tested for total coliform bacteria 48 times. None of the tests detected bacteria.

The following contaminants were measured in 2021 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 no violations in 2023.

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