

**2020 WATER QUALITY REPORT**  
**CAVE CREEK WATER COMPANY**  
**DESERT HILLS WATER SYSTEM**  
PWS ID: 04-07-026



The Town of Cave Creek's Mission  
is to support the community  
by effectively managing public services  
and fostering our unique  
southwestern ways of life.

UTILITY DEPARTMENT • 37622 N Cave Creek Rd • Cave Creek, AZ 85331 • Phone: 480-488-6620

THE TOWN OF CAVE CREEK IS DEDICATED TO CONSERVING,  
PROTECTING, AND ENHANCING OUR WATER RESOURCES  
TO ENSURE A SAFE AND RELIABLE DRINKING WATER SUPPLY



## To Serve Your Water Needs: Our Mark of Excellence

It begins with our Town staff, who work hard to bring you safe and reliable drinking water every time you pour a glass. Our stewardship begins with a focus on water quality and customer satisfaction. We continually strive to improve our services by fostering new ideas in sustainable technologies and practices to make our operations more efficient.

Water is a precious natural resource, vital to our desert community and essential for everyday life. We will continue to innovate, to ensure a safe and sustainable drinking water supply now and into the future at a fair price.

We dedicate ourselves to producing drinking water that meets or exceeds state and federal drinking water standards. We continually strive to adopt new and better methods of delivering the best quality drinking water to you. As regulations and drinking water standards change, we are committed to incorporate these changes in an expeditious and cost-effective manner.

We hope you find this report informative and useful. It is our pleasure to serve our customers. We are proud to present to you our annual Water Quality Report.

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## Where Does My Water Come From?

The Desert Hills Water System is supplied by a combination of surface water and groundwater. Surface water provides around 75%, and groundwater around 25%, of the annual water supply. Surface water comes from the Colorado River delivered from Lake Havasu and Lake Pleasant via the Central Arizona Project (CAP) Canal. The groundwater comes from three wells located in the Desert Hills area.

On a daily basis we operate and maintain a Raw Water Transmission System from the Central Arizona Project (CAP) Canal. This system consists of a series of pumps and pipelines that transfer the water from the CAP canal near the intersection of Cave Creek Road and Deer Valley Road to our surface water treatment plant located near East Cave Creek Road and Basin Road, a distance of nearly 12 miles. Once treated, CAP water is pumped from the Cave Creek Water System to the Desert Hills System through an interconnect site.



*Town's CAP canal booster station on the north bank of CAP canal*

## How is Your Water Treated?

The Cave Creek water treatment plant utilizes conventional water treatment processes, which includes coagulation, sedimentation, filtration, and disinfection process to produce potable water. The raw water is treated to remove turbidity for water clarity, chemistry is adjusted so that it does not damage pipelines, and the water is disinfected to protect the public health. In November of 2019 new membrane treatment units were added to the plant to enhance overall water quality. Groundwater from the three wells located in the Desert Hills area doesn't require direct treatment.

We distribute the treated water through a system of water mains. These mains are buried underground and are controlled through a series of valves, pressure regulating equipment, booster pumps, pressure tanks, and other water storage tanks.



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## Source Water Assessment Program

In 2002, the Arizona Department of Environmental Quality completed a source water assessment on the three groundwater wells used by the Desert Hills Water System. The assessment looked at potential risks to our groundwater sources.

The assessment concluded that based on the information currently available on the hydrogeological settings of the adjacent land uses, that the Arizona Department of Environmental Quality has given us a low-risk designation for the degree to which these public water systems drinking water sources are protected. A designation of low risk indicates that most source water protection measures are either already implemented, or the hydrogeology is such that the source water protection measures will have little impact on protection.

Additionally, residents can help protect the groundwater supplies by properly recycling household and automotive chemicals and limiting pesticide and fertilizer use.

For more information, please call our Customer Service Center at 480-488-6620 or visit the Source Water Assessment and Protection Unit website at [www.azdeq.gov/environ/water/dw/swap.html](http://www.azdeq.gov/environ/water/dw/swap.html).



## Substances That May Be In Source Water

Microbial Contaminants: Such as viruses and bacteria, which may come from septic systems, sewage treatment plants, agricultural live- stock operations, or wildlife.

Inorganic Contaminants: Such as salts and metals, which can be naturally occurring or may result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and Herbicides: Such as agriculture, urban storm water runoff, and residential uses that may come from a variety of sources.

Organic Chemical Contaminants: Such as synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

Radioactive Contaminants: That can be naturally occurring or be the result of oil and gas production and mining activities.

## Substances Expected To Be In Drinking Water

Lead and Copper: Are typically found in drinking water because of materials and components found in service lines and home plumbing.

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 Town of Cave Creek 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. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

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 can acquire naturally occurring minerals, radioactive material, and substances resulting from the presence of animals or from human activity.

To ensure that tap water is safe to drink, U.S. EPA (United States Environmental Protection Agency) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

## Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The U.S. EPA (United States Environmental Protection Agency) and the CDC (Centers for Disease Control and Prevention) 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 800-426-4791.

If you have any health concerns relating to the information in this report, we encourage you to contact your health care provider.

## What's In My Water?

Extensive monitoring is conducted to ensure that your water meets water quality standards. We routinely monitor for contaminants in your drinking water according to Federal and State laws. The State of Arizona requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Some of our data, though representative, may be more than one year old.

For your information, we have compiled a list showing what substances were detected in our drinking water during year 2020. The results of our monitoring are reported in the table below. All the substances listed were less than the Maximum Contaminant Levels (MCLs) set by USEPA, and we feel it is important that you know exactly what was detected and how much of the substance was present.

Need help interpreting table information, please call our Customer Service at 480-488-6620.

*Unless otherwise noted the tables below show the results of our monitoring for the period of January 1 to December 31, 2020.*



Water Quality Data – Regulated & Unregulated Contaminants

Microbiological (RTCR)	Violation (Y or N)	Number of Positive Samples	Sample Year	MCL	MCLG	Likely Source of Contamination	
Total Coliform Bacteria	N	0	2020	Greater than 1 (Monthly)	0	Naturally Present in the Environment	
Fecal Coliform and E. Coli Fecal Indicator	N	0	2020	0	0	Human and animal fecal waste	
Disinfectants	Violation (Y or N)	RAA	Range of All Samples (Low-High)	MRDL	MRDLG	Sample Year	Likely Source of Contamination
Chlorine (ppm)	N	1.22	0.64 - 1.82	4	0	2020	Water additive used to control microbes
Disinfection By-Products	Violation (Y or N)	RAA Or Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Year	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)	N	18.78	3.6 - 25.1	60	N/A	2020	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	N	65.83	41.0 - 84.0	80	N/A	2020	Byproduct of drinking water disinfection
Lead & Copper	Violation (Y or N)	90 <sup>th</sup> Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Year	Likely Source of Contamination
Copper (ppm)	N	0.20	0	1.3	1.3	2020	Corrosion of household plumbing systems; erosion of natural deposits
Lead <sup>3</sup> (ppb)	N	ND	0	15	0	2020	Corrosion of household plumbing systems; erosion of natural deposits
<p><sup>3</sup> <b>Lead</b> in drinking water is primarily from materials and components associated with service lines and home plumbing. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. 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.</p>							
Inorganic Chemicals (IOC)	Violation (Y or N)	RAA Or Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Year	Likely Source of Contamination
Antimony (ppb)	N	ND	ND	6	6	2018	Discharge from petroleum refineries; fire retardants; ceramics, electronics, and solder
Arsenic <sup>4</sup> (ppb)	N	6.9	6.9 - 6.9	10	0	2020	Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
Barium (ppm)	N	0.062	0.062 - 0.062	2	2	2018	Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	N	ND	ND	4	4	2018	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries

<b>Cadmium (ppb)</b>	N	ND	ND	5	5	2018	Corrosion of galvanized pipes; natural deposits; metal refineries; runoff from waste batteries and paints
<b>Chromium (ppb)</b>	N	2.6	2.6 - 2.6	100	100	2019	Discharge from steel and pulp mills; Erosion of natural deposits
<b>Cyanide (ppb)</b>	N	ND	ND	200	200	2018	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
<b>Fluoride (ppm)</b>	N	0.32	0.32 - 0.32	4	4	2019	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
<b>Mercury (ppb)</b>	N	ND	ND	2	2	2018	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills and cropland
<b>Nitrate<sup>5</sup> (ppm)</b>	N	2.6	2.2 - 2.6	10	10	2020	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Selenium (ppb)</b>	N	ND	ND	50	50	2018	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
<b>Sodium (ppm)</b>	N	38	38 - 38	N/A	N/A	2020	Erosion of natural deposits
<b>Thallium (ppb)</b>	N	ND	ND	2	0.5	2018	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

<sup>4</sup> **Arsenic** is a mineral known to cause cancer in humans at high concentration and is linked to other health effects, such as skin damage and circulatory problems. If arsenic is less than or equal to the MCL, your drinking water meets EPA's standards. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water and continues to research the health effects of low levels of arsenic.

<sup>5</sup> **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, and detected nitrate levels are above 5 ppm, you should ask advice from your health care provider.

<b>Synthetic Organic Chemicals (SOC)</b>	<b>Violation (Y or N)</b>	<b>RAA Or Highest Level Detected</b>	<b>Range of All Samples (Low-High)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Sample Year</b>	<b>Likely Source of Contamination</b>
<b>Alachlor (ppb)</b>	N	ND	ND	2	0	2018	Runoff from herbicide used on row crops
<b>Chlordane (ppb)</b>	N	ND	ND	2	0	2018	Residue of banned termiticide
<b>Di (2-ethylhexyl) phthalate (ppb)</b>	N	ND	ND	6	0	2018	Discharge from rubber and chemical factories
<b>Dibromochloropropane (ppt)</b>	N	ND	ND	200	0	2018	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards

Endrin (ppb)	N	ND	ND	2	2	2018	Residue of banned insecticide
Ethylene dibromide (ppt)	N	ND	ND	50	0	2018	Discharge from petroleum refineries
Heptachlor (ppt)	N	ND	ND	400	0	2018	Residue of banned termiticide
Heptachlor epoxide (ppt)	N	ND	ND	200	0	2018	Breakdown of heptachlor
Lindane (ppt)	N	ND	ND	200	200	2018	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	N	ND	ND	40	40	2018	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa,
Toxaphene (ppb)	N	ND	ND	3	0	2018	Runoff/leaching from insecticide used on cotton and cattle
<b>Volatile Organic Chemicals (VOC)</b>	<b>Violation (Y or N)</b>	<b>RAA Or Highest Level Detected</b>	<b>Range of All Samples (Low-High)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Sample Year</b>	<b>Likely Source of Contamination</b>
Benzene (ppb)	N	ND	ND	5	0	2020	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	N	ND	ND	5	0	2020	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	N	ND	ND	100	100	2020	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	N	ND	ND	600	600	2020	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	N	ND	ND	75	75	2020	Discharge from industrial chemical factories
1,2-Dichloroethane (ppb)	N	ND	ND	5	0	2020	Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)	N	ND	ND	7	7	2020	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	N	ND	ND	70	70	2020	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	N	ND	ND	100	100	2020	Discharge from industrial chemical factories
Dichloromethane (ppb)	N	ND	ND	5	0	2020	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	N	ND	ND	5	0	2020	Discharge from industrial chemical factories
Ethylbenzene (ppb)	N	ND	ND	700	700	2020	Discharge from petroleum refineries
Styrene (ppb)	N	ND	ND	100	100	2020	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)	N	ND	ND	5	0	2020	Discharge from factories and dry cleaners

1,2,4-Trichlorobenzene (ppb)	N	ND	ND	70	70	2020	Discharge from textile-finishing factories
1,1,1-Trichloroethane (ppb)	N	ND	ND	200	200	2020	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane (ppb)	N	ND	ND	5	3	2020	Discharge from industrial chemical factories
Trichloroethylene (ppb)	N	ND	ND	5	0	2020	Discharge from metal degreasing sites and other factories
Toluene (ppm)	N	ND	ND	1	1	2020	Discharge from petroleum factories
Vinyl Chloride (ppb)	N	ND	ND	2	0	2020	Leaching from PVC piping; discharge from chemical factories
Xylenes (ppm)	N	ND	ND	10	10	2020	Discharge from petroleum or chemical factories
<b>Radionuclides</b>	<b>Violation (Y or N)</b>	<b>RAA Or Highest Level Detected</b>	<b>Range of All Samples (Low-High)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Sample Year</b>	<b>Likely Source of Contamination</b>
Alpha Emitters (pCi/L)	N	ND	ND	15	0	2018	Erosion of natural deposits
Radium 226 (pCi/L)	N	ND	ND	5	0	2018	Erosion of natural deposits
Radium 228 (pCi/L)	N	ND	ND	5	0	2018	Erosion of natural deposits
<b>Secondary Contaminants</b>	<b>Violation (Y or N)</b>	<b>Highest Level Detected</b>	<b>% Range (Low-High)</b>	<b>Secondary Standard</b>	<b>Sample Year</b>	<b>Likely Source of Contamination</b>	
pH (ppm)	N/A	7.5	7.4 - 7.5	6.5 - 8.5	2019	Measure of the acid/base properties	
Hardness (gr/g)	N/A	15.0	12.0 - 15.0	N/A	2018	Natural content	

## Violations

There were no violations for the Desert Hills Water System in the calendar year 2020.

In January 2020, the Town of Cave Creek had a missed monitoring event due to late reporting. The monthly Surface Water Treatment Rule form is due 10 days after the monitoring period. The system was returned to compliance in February 2020 on submittal of the data.

An explanation of the violation, the steps taken to resolve the violation and any required health effects information are required to be included with this report. Copies of any Public Notices or monitoring details are available upon request.

## Definitions of Terms Used in this Report

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment, or other requirements

**Likely Source of Contamination:** Notes where the substance usually originates

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health

**Maximum Residual Disinfectant Level (MRDL):** The level of disinfectant added for water treatment that may not be exceeded at the consumer's tap

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant added for treatment at which no known or anticipated adverse effect on health of persons would occur

**Minimum Reporting Limit (MRL):** The smallest measured concentration of a substance that can be reliably measured by a given analytical method

**Not Applicable (N/A):** Sampling was not completed by regulation or was not required

**Not Detected (ND or <):** Not detectable at reporting limit

**Nephelometric Turbidity Units (NTU):** A measure of water clarity

**ppm:** Parts per million or Milligrams per liter (mg/L)

ppm x 1000 = ppb

**ppb:** Parts per billion or Micrograms per liter (µg/L)

ppb x 1000 = ppt

**ppt:** Parts per trillion or Nanograms per liter (ng/L)

ppt x 1000 = ppq

**ppq:** Parts per quadrillion or Picograms per liter (pg/L)

**Running Annual Average (RAA):** the average of sample analytical results for samples taken at a particular monitoring location during the previous 4 calendar quarters

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

## Home Water Treatment Units

If you install a home treatment system such as a water softener or reverse osmosis system to improve taste or odor, remember to follow the manufacturer's instructions on operation and maintenance. Failure to perform maintenance can result in reduced water quality. We recommend contacting the manufacturer of your treatment system for maintenance instructions or assistance.

Additional information about home treatment systems is available from the Arizona Water Quality Association at 480-947-9850, by writing to 6819 E. Diamond St, Scottsdale, AZ 85257 or by visiting the website at [www.azwqa.org](http://www.azwqa.org).



## Tips On Conserving Water

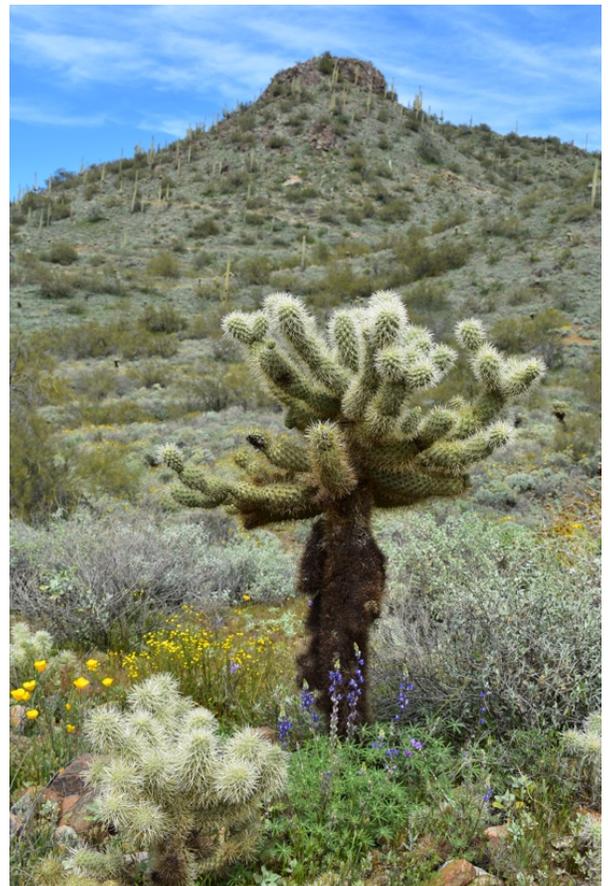
Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water but can also save you money by reducing your water bill.

*Conservation measures you can use inside your home include:*

- Fix leaking faucets, pipes, toilets, etc.
- Replace old fixtures; install water-saving devices in faucets, toilets, and appliances
- Wash only full loads of laundry
- Do not use the toilet for trash disposal
- Take shorter showers
- Do not let the water run while shaving or brushing teeth
- Soak dishes before washing
- Run the dishwasher only when it's full

*You can conserve outdoors as well:*

- Water the lawn and garden in the early morning or evening
- Use mulch around plants and shrubs
- Repair leaks in faucets, hoses, and irrigation systems
- Use water-saving nozzles
- Use water from a bucket to wash your car and save the hose for rinsing



## Share This Report

Landlords, businesses, schools, hospitals, and other groups are encouraged to share this important water quality information with water users at their location who are not billed customers of the Town of Cave Creek and therefore do not receive this report directly.

For more information on how to be involved in water quality opportunities please contact the Town Utilities Department at 480-488-6618.

We want our valued customers to be informed about their water quality. For more information about this report, or for any questions relating to your drinking water, please call Customer Service at 480-488-6620. You can also visit our website at [www.cavecreekaz.gov](http://www.cavecreekaz.gov) for more information.

Queremos que nuestros valiosos clientes estén informados sobre la calidad de su agua. Para obtener más información sobre este informe, o para cualquier pregunta relacionada con su agua potable, llame al Servicio al Cliente al 480-488-6620. También puede visitar nuestro sitio web en [www.cavecreekaz.gov](http://www.cavecreekaz.gov) para obtener más información.

