Town of Chino Valley
2016 Annual Drinking Water Quality Report

Town of Chino Valley Municipal Water System
Public Water System Number: AZ04 13-137

The Town of Chino Valley is pleased to provide you with this Annual Water Quality Report, which contains information about the quality of the drinking water we deliver to you. The format for this report follows the guidelines set by the United States Environmental Protection Agency USEPA as part of the Safe Drinking Water Act. The USEPA requires all public water providers to deliver this information to all customers on an annual basis in a single report that provides water quality data to the public in an understandable manner.

General Information About Drinking Water

All 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 the water poses a health risk. 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 of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and microbiological contaminants call the EPA *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 that 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*** that may come from a variety of sources, such as agriculture and urban stormwater runoff.
- ***Organic chemical contaminants***, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban stormwater runoff, and septic systems.
- ***Radioactive contaminants***, that 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, the Arizona Department of Environmental Quality prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water.

Our Water Source(s)

The Towns service area provides drinking water from a groundwater source pumped from the lower volcanic aquifer of the Little Chino Groundwater Sub-basin of the Verde River watershed. The Town of Chino Valley provides service to its customers through the use of two groundwater wells. Well # 55-219691 is the primary production well and well # 55-621557 is the back-up well.

Source Water Assessments on file with the Arizona Department of Environmental Quality are available for public review. To obtain a Source Water Assessment, contact the Arizona Source Water Coordinator at (602) 771-4641.

The Source Water Assessment Report provides a screening-level evaluation of potential contamination that **could** occur. It does not mean that the contamination **has or will** occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

Please contact Chris Bartels at 928-636-6084 to learn more about what you can do to help protect your drinking water sources, any questions about the annual drinking water quality report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

Terms and Abbreviations

To help you understand the terms and abbreviations used in this report, we have provided the following definitions:

- ***Parts per million (ppm) or Milligrams per liter (mg/L)*** **-** one part per million corresponds to one minute in two years or a single penny in $10,000.
- ***Parts per billion (ppb) or Micrograms per liter (µg/L)*****-** one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
- ***Parts per trillion (ppt) or Nanograms per liter (nanograms/L)*** **-** one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
- ***Parts per quadrillion (ppq) or Picograms per liter (picograms/L)*** **-** one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.
- ***Picocuries per liter (pCi/L)*** **-** picocuries per liter is a measure of the radioactivity in water.
- ***Nephelometric Turbidity Unit (NTU)*** **-** nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- ***Action Level*** **(AL) -** the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- ***Action Level Goal (ALG)*** **-** The "Goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health.
- ***Treatment Technique (TT)*** **-** A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- ***Maximum Contaminant Level Goal*** **(MCLG) -** The "Goal" is 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 Contaminant Level*** **(MCL)-** The "Maximum Allowed" is 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 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.
- ***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.
- ***Running Annual Average (RAA):*** An average of monitoring results for the previous 12 calendar months.

Water Quality Data

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.

These tables show the results of our monitoring for the period of January 1 to December 31, 2016 unless otherwise noted.

Microbiological Contaminants Required Monitoring Cycle - Monthly

Contaminant	MCL	MCLG	Unit	Result	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Total Coliform Bacteria for Systems that collects<40 samples per month	No more than 1 positive monthly sample	0	Absent or Present	Absent	No	Monthly 2016	Naturally present in the environment
Fecal coliform and E. Coli	A routine sample & a repeat sample are total coliform positive, & one is also fecal coliform or *E. coli positive*	0	Absent or Present	Absent	No	Monthly 2016	Human and animal fecal waste

Radionuclides Required Monitoring Cycle – 4 Year Intervals

Contaminant	MCL	MCLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Alpha emitters	15	0	pCi/l	1.3 +/- 0.3	No	02/25/16	Erosion of natural deposits

Lead and Copper Required Monitoring Cycle – 3 Year Intervals

Contaminant	AL	ALG	Units	90th Percentile	Number of Sites over AL	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Copper	1.3	1.3	ppm	0.09	0	No	8/28/14	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	15	0	ppb	0.049	0	No	8/28/14	Corrosion of household plumbing systems, erosion of natural deposits

Disinfectants Required Monitoring Cycle – Daily

	MRDL	MRDLG	Units	Level Detected & Range	Violation (Yes or No)	Sample Date/Year	Source
Chlorine	4	4	ppm	0.51 – 2.20	No	Daily 2016	Water additive used to control microbes

Disinfection Byproducts Required Monitoring Cycle - Annually

Contaminant	MCL	MCLG	Units	Average	Level Detected & Range	Highest RAA	Violation (Yes or No)	Sample Date/Year	Likely Source of Contamination
Haloacetic Acids (HAA)	80	N/A	ppb	<0.0020	<0.0020	<0.0020	No	08/19/16	By-product of drinking water disinfection
Total Trihalomethanes (TTHM)	60	N/A	ppb	0.00875	0.0083 – 0.0092	0.0106	No	08/19/16	By-product of drinking water disinfection

Inorganic Contaminants Required Monitoring Cycle – 9 Year Intervals

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Antimony	6	6	ppb	<0.0005	No	11/21/13	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	10	0	ppb	0.0059	No	11/21/13	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2	2	ppm	0.0037	No	11/21/13	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	4	4	ppb	<0.001	No	11/21/13	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	5	5	ppb	<0.0005	No	11/21/13	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	100	100	ppb	0.0027	No	11/21/13	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide	200	200	ppb	<0.05	No	11/21/13	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	4	4	ppm	0.33	No	11/21/13	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Mercury (inorganic)	2	2	ppb	<0.0002	No	11/21/13	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen)	10	10	ppm	1.7	No	02/18/16	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	1	1	ppm	<0.10	No	8/26/14	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	50	50	ppb	<0.005	No	11/21/13	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium	2	0.5	ppb	<0.0001	No	11/21/13	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

Synthetic Organic Contaminants, Including Pesticides and Herbicides Required Monitoring Cycle – 9 Year Intervals

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
2,4-D	70	70	ppb	<0.0001	No	04/21/10	Runoff from herbicide used on row crops
2,4,5-TP (Silvex)	50	50	ppb	<0.0002	No	04/21/10	Residue of banned herbicide
Alachlor	2	0	ppb	<0.00005	No	2/23/16	Runoff from herbicide used on row crops
Atrazine	3	3	ppb	<0.00005	No	04/21/10	Runoff from herbicide used on row crops
Benzo (a) pyrene (PAH)	200	0	ppt	<0.00002	No	04/21/10	Leaching from linings of water storage tanks and distribution lines
Carbofuran	40	40	ppb	<0.0001	No	04/21/10	Leaching of soil fumigant used on rice and alfalfa
Chlordane	2	0	ppb	<0.0001	No	2/23/16	Residue of banned termiticide
Dalapon	200	200	ppb	<0.001	No	04/21/10	Runoff from herbicide used on rights of way
Di (2-ethylhexyl) adipate	400	400	ppb	<0.0006	No	04/21/10	Discharge from chemical factories
Di (2-ethylhexyl) phthalate	6	0	ppb	<0.0006	No	04/21/10	Discharge from rubber and chemical factories
Dibromochloropropane	200	0	ppt	<0.00001	No	2/26/16	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	7	7	ppb	<0.0002	No	04/21/10	Runoff from herbicide used on soybeans and vegetables
Diquat	20	20	ppb	<0.0004	No	02/19/16	Runoff from herbicide use
Endothall	100	100	ppb	<0.005	No	02/19/16	Runoff from herbicide use
Endrin	2	2	ppb	<0.00001	No	02/26/16	Residue of banned insecticide
Ethylene dibromide	50	0	ppt	<0.00001	No	2/26/16	Discharge from petroleum refineries
Glyphosate	700	700	ppb	<0.006	No	02/19/16	Runoff from herbicide use
Heptachlor	400	0	ppt	<0.00001	No	02/23/16	Residue of banned temiticide
Heptachlor epoxide	200	0	ppt	<0.00001	No	02/23/16	Breakdown of heptachlor
Hexachlorobenzene	1	0	ppb	<0.00005	No	02/19/16	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene	50	50	ppb	<0.00005	No	02/19/16	Discharge from chemical factories
Lindane	200	200	ppt	<0.00001	No	02/26/16	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	40	40	ppb	<0.00005	No	02/26/16	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	200	200	ppb	<0.0005	No	04/21/10	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
Pentachlorophenol	1	0	ppb	<0.00004	No	02/19/16	Discharge from wood preserving factories
Picloram	500	500	ppb	<0.0001	No	02/19/16	Herbicide runoff
Simazine	4	4	ppb	<0.00005	No	02/19/16	Herbicide runoff
Toxaphene	3	0	ppb	<0.0005	No	02/23/16	Runoff/leaching from insecticide used on cotton and cattle

Volatile Organic Contaminants Required Monitoring Cycle – 9 Year Intervals

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Benzene	5	0	ppb	<0.0005	No	02/19/16	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride	5	0	ppb	<0.0005	No	02/19/16	Discharge from chemical plants and other industrial activities
Chlorobenzene	100	100	ppb	<0.0005	No	02/19/16	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	600	600	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
p-Dichlorobenzene	75	75	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
1,2-Dichloroethane	5	0	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
1,1-Dichloroethylene	7	7	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene	70	70	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene	100	100	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
Dichloromethane	5	0	ppb	<0.0005	No	02/19/16	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	5	0	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
Ethylbenzene	700	700	ppb	<0.0005	No	02/19/16	Discharge from petroleum refineries
Styrene	100	100	ppb	<0.0005	No	02/19/16	Discharge from rubber and plastic factories; leaching from landfills
1,2,4-Trichlorobenzene	70	70	ppb	<0.0005	No	02/19/16	Discharge from textile-finishing factories
1,1,1-Trichloroethane	200	200	ppb	<0.0005	No	02/19/16	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane	5	3	ppb	<0.0005	No	02/19/16	Discharge from industrial chemical factories
Trichloroethylene	5	0	ppb	<0.0005	No	02/19/16	Discharge from metal degreasing sites and other factories

Contaminant	MCL	MCLG	Units	Level Detected/ Range	Violation (Yes or No)	Sample Date	Likely Source of Contamination
Toluene	1	1	ppm	<0.0005	No	04/21/10	Discharge from petroleum factories
Vinyl Chloride	2	0	ppb	<0.0003	No	04/21/10	Leaching from PVC piping; discharge from chemical factories
Xylenes	10	10	ppm	<0.0005	No	04/21/10	Discharge from petroleum factories; discharge from chemical factories

Health Effects Information About the Above Tables

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.

If **arsenic** is less than 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. 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.

Infants and young children are typically more vulnerable to **lead** in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the EPA *Safe Drinking Water Hotline* at 1-800-426-4791.

Total Coliform Bacteria are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Fecal Coliform and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

As you can see by the above table, our system had no violations and measured amounts are well below allowable limits. We are proud that your drinking water meets or exceeds all federal and state requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels. The Town of Chino Valley works to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which is the heart of our community, our way of life and our children's future. Thank you for allowing us to continue to provide your family with clean, quality water this year.

If you have any questions about this report or concerning your water utility, please contact Chris Bartels at 636-7140 x1233. We want our valued customers to be informed about their water utility.