



# Consumer Confidence Report for Calendar Year **20**

Este informe contiene información muy importante sobre el agua usted bebe.  
Tradúscalo ó hable con alguien que lo entienda bien.

Public Water System ID Number		Public Water System Name	
AZ04-			
Contact Name and Title		Phone Number	E-mail Address

We want our valued customers to be informed about their water quality. If you would like to learn more about public participation or to attend any of our regularly scheduled meetings, please contact \_\_\_\_\_ at \_\_\_\_\_ for additional opportunity and meeting dates and times.

### Drinking Water Sources

The sources of drinking water (both tap 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 pickup substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

**Our water source(s):**

### Consecutive Connection Sources

[Check here if this section does not apply to this system](#)

A public water system that receives some or all of its finished water from one or more wholesale systems by means of a direct connection or through the distribution system of one or more consecutive systems. Systems that purchase water from another system report regulated contaminants detected from the source water supply in a separate table.

**PWS #** [AZ04-\\_\\_\\_\\_\\_](#),

**provides us a consecutive connection source of water.**

### Drinking Water Contaminants

**Microbial Contaminants:** Such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife

**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.

**Inorganic Contaminants:** Such as salts and metals that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming

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

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

## Vulnerable Population

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 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 from 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.

## Source Water Assessment

Further source water assessment documentation can be obtained by contacting ADEQ.

## Definitions

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

**Level 1 Assessment:** A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria was present

**Level 2 Assessment:** A very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria was present

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

**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

**Millirems per year (MREM):** A measure of radiation absorbed by the body

**Not Applicable (NA):** 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

**Million fibers per liter (MFL)**

**Picocuries per liter (pCi/L):** Measure of the radioactivity in water

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

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

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

ppm x 1000 = ppb

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

ppb x 1000 = ppt

ppt x 1000 = ppq

**Lead Informational Statement:** *(Applies to All Water Systems, please do not remove even if your system did not detect any Lead)*

Lead, 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. 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 or at [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead).

**Water Quality Data – Regulated Contaminants**

Microbiological (RTCR)	TT Violation Y or N	Number of Positive Samples	Positive Sample(s) Month & Year	MCL	MCLG	Likely Source of Contamination	
E. Coli				0	0	Human and animal fecal waste	
Fecal Indicator (From GWR source) (coliphage, enterococci and/or E. coli)				0	0	Human and animal fecal waste	
Surface Water Treatment Rule	TT Violation Y or N	Highest Level Detected	% Range (Low-High)	TT	Sample Month & Year	Likely Source of Contamination	
Total Organic Carbon <sup>1</sup> (mg/L)				TT		Naturally Present in the Environment	
Turbidity <sup>2</sup> (NTU)				TT		Soil runoff	
<p><sup>1</sup> Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THM) and haloacetic acids (HAA). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.</p> <p><sup>2</sup> Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. We monitor it because it is a good indicator of the quality of water. High turbidity can hinder the effectiveness of disinfectants. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.</p>							
Disinfectants	MCL Violation Y or N	Running Annual Average (RAA)	Range of All Samples (Low-High)	MRDL	MRDLG	Sample Month & Year	Likely Source of Contamination
Chlorine/Chloramine (ppm)				4	4		Water additive used to control microbes
Chlorine dioxide (ppb) <i>if treated with CLO2</i>				800	0		Water additive used to control microbes
Disinfection By-Products	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)				60	N/A		Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)				80	N/A		Byproduct of drinking water disinfection
Bromate (ppb) <i>if treated with Ozone</i>				10	0		Byproduct of drinking water disinfection
Chlorite (ppm) <i>if treated with CLO2</i>				1	0.8		Byproduct of drinking water disinfection
Lead & Copper	MCL Violation Y or N	90 <sup>th</sup> Percentile	Number of Samples Exceeds AL	AL	ALG	Sample Month & Year	Likely Source of Contamination
Copper (ppm)				1.3	1.3		Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)				15	0		Corrosion of household plumbing systems; erosion of natural deposits
Radionuclides	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level Detected	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination
Beta/Photon Emitters (mrem/yr.)				4	0		Decay of natural and man-made deposits
Alpha Emitters (pCi/L) <i>(This is Gross Alpha 4000)</i>				15	0		Erosion of natural deposits
Combined Radium-226 & -228 (pCi/L)				5	0		Erosion of natural deposits
Uranium (ug/L)				30	0		Erosion of natural deposits
Inorganic Chemicals (IOC)	MCL Violation Y or N	Running Annual Average (RAA) OR Highest Level	Range of All Samples (Low-High)	MCL	MCLG	Sample Month & Year	Likely Source of Contamination

		Detected					
<b>Antimony (ppb)</b>				6	6		Discharge from petroleum refineries; fire retardants; ceramics, electronics and solder
<b>Arsenic<sup>1</sup> (ppb)</b>				10	0		Erosion of natural deposits, runoff from orchards, runoff from glass and electronics production wastes
<b>Asbestos (MFL)</b>				7	7		Decay of asbestos cement water mains; Erosion of natural deposits
<b>Barium (ppm)</b>				2	2		Discharge of drilling wastes; discharge from metal refineries; Erosion of natural deposits
<b>Beryllium (ppb)</b>				4	4		Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
<b>Cadmium (ppb)</b>				5	5		Corrosion of galvanized pipes; natural deposits; metal refineries; runoff from waste batteries and paints
<b>Chromium (ppb)</b>				100	100		Discharge from steel and pulp mills; Erosion of natural deposits
<b>Cyanide (ppb)</b>				200	200		Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
<b>Fluoride (ppm)</b>				4	4		Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
<b>Mercury (ppb)</b>				2	2		Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills and cropland.
<b>Nitrate (ppm)</b>				10	10		Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Nitrite<sup>2</sup> (ppm)</b>				1	1		Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Selenium (ppb)</b>				50	50		Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
<b>Sodium (ppm)</b>				N/A	N/A		Erosion of natural deposits
<b>Thallium (ppb)</b>				2	0.5		Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

<sup>1</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>2</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>MCL Violation Y or N</b>	<b>Running Annual Average (RAA) OR Highest Level Detected</b>	<b>Range of All Samples (Low-High)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Sample Month &amp; Year</b>	<b>Likely Source of Contamination</b>
<b>2,4-D (ppb)</b>				70	70		Runoff from herbicide used on row crops
<b>2,4,5-TP (a.k.a. Silvex) (ppb)</b>				50	50		Residue of banned herbicide
<b>Acrylamide</b>				TT	0		Added to water during sewage / wastewater treatment
<b>Alachlor (ppb)</b>				2	0		Runoff from herbicide used on row crops
<b>Atrazine (ppb)</b>				3	3		Runoff from herbicide used on row crops
<b>Benzo (a) pyrene (PAH) (ppt)</b>				200	0		Leaching from linings of water storage tanks and distribution lines

Carbofuran (ppb)				40	40		Leaching of soil fumigant used on rice and alfalfa
Chlordane (ppb)				2	0		Residue of banned termiticide
Dalapon (ppb)				200	200		Runoff from herbicide used on rights of way
Di (2-ethylhexyl) adipate (ppb)				400	400		Discharge from chemical factories
Di (2-ethylhexyl) phthalate (ppb)				6	0		Discharge from rubber and chemical factories
Dibromochloropropane (ppt)				200	0		Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)				7	7		Runoff from herbicide used on soybeans and vegetables
Diquat (ppb)				20	20		Runoff from herbicide use
Dioxin [a.k.a. 2,3,7,8-TCDD] (ppq)				30	0		Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall (ppb)				100	100		Runoff from herbicide use
Endrin (ppb)				2	2		Residue of banned insecticide
Epichlorohydrin				TT	0		Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide (ppt)				50	0		Discharge from petroleum refineries
Glyphosate (ppb)				700	700		Runoff from herbicide use
Heptachlor (ppt)				400	0		Residue of banned termiticide
Heptachlor epoxide (ppt)				200	0		Breakdown of heptachlor
Hexachlorobenzene (ppb)				1	0		Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo pentadiene (ppb)				50	50		Discharge from chemical factories
Lindane (ppt)				200	200		Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)				40	40		Runoff/leaching from insecticide used on fruits, vegetables, alfalfa,
Oxamyl (a.k.a. Vydate) (ppb)				200	200		Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls] (ppt)				500	0		Runoff from landfills; discharge of waste chemicals
Pentachlorophenol (ppb)				1	0		Discharge from wood preserving factories
Picloram (ppb)				500	500		Herbicide runoff
Simazine (ppb)				4	4		Herbicide runoff
Toxaphene (ppb)				3	0		Runoff/leaching from insecticide used on cotton and cattle
<b>Volatile Organic Chemicals (VOC)</b>	<b>MCL Violation Y or N</b>	<b>Running Annual Average (RAA) OR Highest Level Detected</b>	<b>Range of All Samples (Low-High)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Sample Month &amp; Year</b>	<b>Likely Source of Contamination</b>
Benzene (ppb)				5	0		Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)				5	0		Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)				100	100		Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)				600	600		Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)				75	75		Discharge from industrial chemical factories
1,2-Dichloroethane (ppb)				5	0		Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)				7	7		Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)				70	70		Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)				100	100		Discharge from industrial chemical factories
Dichloromethane (ppb)				5	0		Discharge from pharmaceutical and chemical

						factories
1,2-Dichloropropane (ppb)				5	0	Discharge from industrial chemical factories
Ethylbenzene (ppb)				700	700	Discharge from petroleum refineries
Styrene (ppb)				100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene (ppb)				5	0	Discharge from factories and dry cleaners
1,2,4-Trichlorobenzene (ppb)				70	70	Discharge from textile-finishing factories
1,1,1-Trichloroethane (ppb)				200	200	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane (ppb)				5	3	Discharge from industrial chemical factories
Trichloroethylene (ppb)				5	0	Discharge from metal degreasing sites and other factories
Toluene (ppm)				1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)				2	0	Leaching from PVC piping; discharge from chemical factories
Xylenes (ppm)				10	10	Discharge from petroleum or chemical factories

### Water Quality Table - Unregulated Contaminants

[Check here if this section does not apply to this system](#)

Metals	Detected (Y/N)	Average	Range of All Samples (Low-High)	MRL	Likely Source of Contamination
Germanium (ppt)				300	Naturally-occurring element; commercially available in combination with other elements and minerals; a byproduct of zinc ore processing; used in infrared optics, fiber-optic systems, electronics and solar applications
Manganese (ppt)				400	Naturally-occurring element; commercially available in combination with other elements and minerals; used in steel production, fertilizer, batteries and fireworks; drinking water and wastewater treatment chemical; essential nutrient
Pesticides	Detected (Y/N)	Average	Range of All Samples (Low-High)	MRL	Likely Source of Contamination
Alpha-hexachlorocyclohexane (ppt)				10	Component of benzene hexachloride (BHC); formerly used as an insecticide
Chlorpyrifos (ppt)				30	Organophosphate; used as an insecticide, acaricide and miticide
Dimethipin (ppt)				200	Used as an herbicide and plant growth regulator
Ethoprop (ppt)				30	Used as an insecticide
Oxyfluorfen (ppt)				50	Used as an herbicide
Profenofos (ppt)				300	Used as an insecticide and acaricide
Tebuconazole (ppt)				200	Used as a fungicide
Total permethrin (cis- & trans-) (ppt)				40	Used as an insecticide
Pesticides Manufacturing By-Product	Detected (Y/N)	Average	Range of All Samples (Low-High)	MRL	Likely Source of Contamination
Tribufos (ppt)				700	Used as an insecticide and cotton defoliant Water additive used to control microbes
Alcohols	Detected (Y/N)	Average	Range of All Samples (Low-High)	MRL	Likely Source of Contamination
1-butanol (ppb)				2.0	Used as a solvent, food additive and in production of other chemicals
2-methoxyethanol (ppt)				400	Used in a number of consumer products, such as synthetic cosmetics, perfumes, fragrances, hair preparations and skin lotions
2-propen-1-ol (ppt)				500	Used in the production flavorings, perfumes and other chemicals
Semivolatile Chemicals	Detected (Y/N)	Average	Range of All Samples (Low-High)	MRL	Likely Source of Contamination
Butylated hydroxyanisole (ppt)				30	Used as a food additive (antioxidant)
O-toluidine (ppt)				7	Used in the production of dyes, rubber, pharmaceuticals and pesticides
Quinolone (ppt)				20	Used as a pharmaceutical (anti-malarial) and flavoring agent; produced as a chemical intermediate; component of coal

**Surface Water Monitoring & Violations**

[Check here if this section does not apply to this system](#)

**Cryptosporidium** was detected in the finished water or source water. We detected *Cryptosporidium* in \_\_\_\_\_ of our samples tested. If *Cryptosporidium* is found at greater than 0.075 oocyst per liter, we have to provide additional treatment. We believe it is important for you to know that *Cryptosporidium* may cause serious illness in 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. These people should seek advice from their health care providers.

**Health Effects Language:**

**Cryptosporidium** is a microbial pathogen found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

**Violation Summary (for MCL, MRDL, AL, TT, or Monitoring & Reporting Requirement)**

Violation Type	Explanation, Health Effects	Time Period	Corrective Actions
<i>(Example: Reporting failure)</i>	<i>(Example: Forgot to sample for RTCR)</i>	<i>(Example: 14 days)</i>	<i>(Example: Sent in May results to show that the system is not serving contaminated water)</i>

**Assessments for the Revised Total Coliform Rule (RTCR)**

[Check here if this section does not apply to this system](#)

**Coliforms** are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. If coliform is found, then the system is responsible to look for potential problems in water treatment or distribution. When this occurs, the water system is required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

- During the past year, we were required to conduct \_\_\_\_\_ Level 1 assessment(s). \_\_\_\_\_ Level 1 assessment(s) were completed. In addition, we were required to take \_\_\_\_\_ corrective actions and we completed \_\_\_\_\_ of these actions.
- During the past year, we were required to conduct \_\_\_\_\_ Level 2 assessment(s). \_\_\_\_\_ Level 2 assessment(s) were completed. In addition, we were required to take \_\_\_\_\_ corrective actions and we completed \_\_\_\_\_ of these actions.

**E. coli** are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. If *E. coli* bacteria is found, the water system is required to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

- During the past year, we were required to complete \_\_\_\_\_ Level 2 assessment(s) because we found *E. coli* in our water system. In addition, we were required to take \_\_\_\_\_ corrective actions and we completed \_\_\_\_\_ of these actions.

**Failure to Conduct Assessments for RTCR**

[Check here if this section does not apply to this system](#)

Contaminant Name	TT Violation Y or N	TT Requirement
<b>Total Coliform</b>		We were required to conduct an assessment of our system due to one of the following: <ul style="list-style-type: none"> <li>• More than 5.0% positive samples per period (if the number of samples are greater than or equal to 40)</li> <li>• <u>OR</u> More than 1 positive sample per period (if the number of samples are less than 40)</li> <li>• <u>OR</u> Repeat samples not collected after positive sample.</li> </ul>

Please share this information with other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.





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**Why Green Valley Water District drilled the Cotonia Well**

The original Well #1 was dug in 1978 along Placita De La Cotonia near West Frontage Road. For many years Well #1 was a primary well for the Green Valley Water District, providing potable water for our customers. Over decades of use, normal wear and tear began to impact the well casing and an inspection performed in 2017 indicated that it would be prudent to plan for a replacement well. Engineering for the new well began in 2019 with construction starting in early 2020 and completion of the new Cotonia Well occurring in late 2020. Well #1 has now been sealed and the Cotonia Well is our new primary source of potable water for our customers.

The Cotonia well is deeper than the original well and the District was able to place the new well within the existing footprint of the treatment plant to take advantage of the existing electrical and piping connections with a minimum of new construction thus keeping costs low.

The District now has a state-of-the-art production well that should serve our needs far into the future.

**Water Hardness is considered a Secondary Contaminant.**

Health/Sanitary Significance: Hardness is a natural characteristic of water which can enhance its palatability and consumer acceptability for drinking purposes. Health studies in several countries in recent years indicate that mortality rates from heart diseases are lower in areas with hard water. Background Information: Originally taken to be the capacity of a water to destroy the lather of soap, hardness was determined formerly by titration with soap solution. Currently, the analysis comprises the determination of calcium and magnesium which are the main constituents of hardness. Although barium, strontium and iron can also contribute to hardness, their concentrations are normally so low in this context that they can be ignored. Thus, total hardness is taken to comprise the calcium and magnesium concentrations expressed as mg/l CaCO<sub>3</sub>. The widespread abundance of these metals in rock formations leads often to very considerable hardness levels in surface and ground waters.

Date Analyzed	Contaminant Tested	Location	Test Results	PQL	Units
1/20/21	Calcium	Cotonia	33	1.0	mg/L
1/20/21	Magnesium	Cotonia	3.3	1.0	mg/L
1/20/21	Potassium	Cotonia	2.8	1.0	mg/L
1/20/21	Sodium	Cotonia	43	1.0	mg/L
1/20/21	Calcium Hardness as CaCO <sub>3</sub>	Cotonia	83	2.5	mg/L
1/20/21	Magnesium Hardness as CaCO	Cotonia	14	4.1	mg/L
1/20/21	Total Hardness as CaCO <sub>3</sub>	Cotonia	97	4.1	mg/L
1/20/21	Total Alkalinity as CaCO <sub>3</sub>	Cotonia	140	10	mg/L
1/20/21	Bicarbonate Alkalinity	Cotonia	140	10.0	mg/L
1/20/21	Chloride	Cotonia	11.1	5.0	mg/L
1/20/21	Sulfate	Cotonia	32.4	5.0	mg/L

Our water hardness converted to grains is 5.67 grains per gallon

The following is one of several such arbitrary classifications of waters by hardness:

- Soft up to 50 mg/l CaCO<sub>3</sub>
- Moderately Soft 51-100 mg/l CaCO<sub>3</sub>
- Slightly Hard 101 - 150 mg/l CaCO<sub>3</sub>
- Moderately Hard 151-250 mg/l CaCO<sub>3</sub>
- Hard 251-350 mg/l CaCO<sub>3</sub>
- Excessively Hard over 350 mg/l CaCO<sub>3</sub>