

# Annual Water Quality Report 2019

Published: June 2020

Green Valley Water District, (520) 625-9112

**Green Valley Water District strives to conserve and protect your water. If you need to contact us call (520) 625-9112.**

## Introduction

The U.S. Environmental Protection Agency established the Consumer Confidence Report (CCR) Rule, published in the FEDERAL REGISTER on August 19, 1998.

The rationale for CCRs is that consumers should know the sources of their water and that all groundwater is expected to contain substances. Some of these substances are

beneficial to humans, and some are not. This Quality Report will help consumers to understand the quality of their water as well as the challenge of delivering quality drinking water.

Green Valley Water District is pleased to present to you this year's Annual Quality Report. This Report details where your water comes from, what

it contains and how it compares to standards set by regulatory agencies. It includes information we have collected from January 2019 through December 2019.

We believe educated consumers are more likely to help protect drinking water resources and to understand the true costs of providing quality drinking water.

## Your Water and Its Source

The three elements of the water flow system in the Green Valley Water District Service Area and vicinity are riverbed recharge, underflow and mountain front recharge. In the Green Valley Area, the groundwater flow system coincides with the general northerly direction and path of the Santa Cruz River. Numerous investigators including Anderson (1972) and Davidson (1973) from the U.S. Geological Survey have discussed the flow system. OsterKamp (1973) provided a map of the Upper Santa Cruz Basin, including Green Valley, which estimates volumetric inputs to the flow system. Travers and Mock (1984) used most of these estimates for a

groundwater model of the Upper Santa Cruz and Avra Valleys.

Although the Santa Cruz and its tributaries are dry for long periods each year, during the monsoon summer season and the winter rains, significant amounts of river and stream runoff infiltrate the stream beds and recharge our aquifer. Hydrologists have reported this phenomenon as substantial and unique. Estimates of river recharge along the Santa Cruz River in the Green Valley vicinity are as much as 300-400 Acre-feet per mile per year (AF/yr) of river.

The amount of water entering our basin from aquifer flow from the south near the Santa Cruz

County line is significant. Some estimates are as high as 10,000 AF/yr over all.

Our aquifer is also recharged along the perimeter of the Santa Rita and Sierrita Mountains from cracks, joints and the many small stream channels that empty the mountains during storms. This mountain front recharge has been estimated to be as high as 6,000 AF/yr in the area supplying the Green Valley Water District's four active wells. Two of the District's wells provide safe drinking water to our customers. The third and fourth wells are irrigation wells which do not require testing to meet safe drinking water standards. The District currently used **2101**

### Individual Highlights

|                         |     |
|-------------------------|-----|
| Source Water Assessment | 2   |
| What's in My Water      | 3   |
| Test Results            | 4-7 |

**A message to our  
“part-time” residents:**

If you are one of our part time residents, we urge you to update your contact information with us in the event we need to contact you while you are out of town. During the year if our staff finds your water consumption has gone up dramatically or we find a leak we always try to contact our homeowners in a timely manner. Having good contact phone numbers and email addresses assist us in getting the job done more efficiently



\*Pay attention to your water bill & become familiar with your water meter. Use them to track your water usage & detect leaks.

\*Our meters record in gallons and we round the usage off to the nearest 100 gallons for billing.

\*Know where your master shut-off valve is located. This could save water & damage to your home.

**Did you know?**

At many households the single-biggest water user is the automated irrigation system. These drip systems can account for 60 percent or more of the water used in a household.

Source: Handbook of Water Use and Conservation, Amy Vickers

The depth of water to the Green Valley Water District's wells varies from 228-265 feet below land surface (bls),

depending upon their proximity to the Santa Cruz River. All of our wells are drilled to depth of 600 ft. or greater. The

Green Valley Water District well water levels are monitored periodically throughout the year so we can monitor the water

**Source Water Assessment Summary**

In 2004, the Arizona Department of Environmental Quality completed a source water assessment for the two wells used by Green Valley Water District. The Assessment reviewed the adjacent land uses that may pose a potential risk to the sources. These risks include, but are not limited to, gas stations,

landfills, dry cleaners, agriculture fields, waste water treatment plants, and mining activities.

Once ADEQ identified the adjacent land uses, they were ranked as to their potential to affect the water source. The result of the assessment was there was a **low risk** to source water of our District.

The complete Assessment is available for inspection at the Arizona Department of Environmental Quality, 1110 W. Washington, Phoenix, Arizona 85007, between the hours of 8:00 a.m. and 5:00 p.m. Electronic copies are available from ADEQ at [www.azdeq.gov/enviro n/water/dw/swap.html](http://www.azdeq.gov/enviro n/water/dw/swap.html)

**Do I Need to Take Special Precautions?**

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.

**Why Are There Contaminants In My Water?**

Drinking water, including bottled water, may reasonably be expected to contain at least some small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water

Hotline at (800) 426-4791 or visit their website at [www.epa.gov/safewater](http://www.epa.gov/safewater) 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 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. In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in potable water provided by public water systems. Food and Drug Administration (FDA) Regulation established limits for contaminants in bottled water, which must provide the same protection for public health.

## Detailed Information on Substances Detected

**Nitrate and Nitrite** – These are normally introduced to water from one or more of the following sources:

- Runoff from fertilizers used
- Leaching from septic tanks or sewer systems
- Erosion of natural deposits

**Health effects of Nitrate or Nitrite** –

Nitrate or Nitrite in drinking water at levels above 10 mg/L can pose a health risk for infants of less than six months of age.

The possibility of “Blue Baby Syndrome” exists if the level exceeds the MCL.

**Sulfate** – Is a substance that occurs naturally mostly causing an aesthetic effect in drinking water. Some people who drink water with

high concentrations of sulfate over many years could experience discoloration of skin and teeth.

**Total Dissolved Solids** – Occurs naturally through erosion mostly causing an aesthetic effect in drinking water.

**Disinfectant Byproducts** – Occurs through the breakdown of the disinfectant that is used to eliminate microorganisms from the drinking water. In high concentrations over a prolonged period these byproducts could cause problems with the liver, kidney or central nervous system; also an increased risk of cancer.

**Arsenic** – 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. Major sources of arsenic in drinking water are erosion of natural deposits, run-off from orchards, and run-off from glass and electronics production wastes. The EPA recently revised its arsenic Maximum Contaminant Level from 50 ppb to 10 ppb with full compliance required by January 23, 2006. What this means to the District’s consumers is that our water, which contains arsenic in the range of 13-15 ppb, needs to be treated before delivery to them. The District maintains our arsenic treatment facility at our primary well site.

### Contaminants That May Be Present In Water May Include

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

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

**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

**Organic Chemical Contaminants:** Such as synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and 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.

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

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

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

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

**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

**Not Applicable (NA):** Sampling was not completed by regulation or was not required

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

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

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

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

**Million fibers per liter (MFL)**

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

**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)

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

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

ppm x 100 = ppb

ppb x 100 = ppt

ppt x 100 = ppq

**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

## Substances Detected in the Water

| <u>Date Analyzed</u> | <u>Contaminant Tested For</u> | <u>Location</u> | <u>Test Results</u> | <u>MCL</u> | <u>MCGL</u> | <u>Trigger Value</u> |
|----------------------|-------------------------------|-----------------|---------------------|------------|-------------|----------------------|
| 03/14/19             | Nitrate                       | Well #1         | 1.10 mg/L           | 10 mg/L    | 10 mg/L     | 5 mg/L               |
| 01/11/18             | Nitrate                       | Well #2         | 1.83 mg/L           | 10 mg/L    | 10 mg/L     | 5 mg/L               |
| 01/17/19             | Arsenic                       | Well #1         | 8.4 ppb             | 10 ppb     | 10 ppb      | 2 ppb                |
| 03/14/19             | Arsenic                       | Well #1         | 7.5 ppb             | 10 ppb     | 10 ppb      | 2 ppb                |
| 04/22/19             | Arsenic                       | Well #1         | 7.9 ppb             | 10 ppb     | 10 ppb      | 2 ppb                |
| 07/15/19             | Arsenic                       | Well #1         | 5.9 ppb             | 10 ppb     | 10 ppb      | 2 ppb                |
| 10/17/19             | Arsenic                       | Well #1         | 8.4 ppb             | 10 ppb     | 10 ppb      | 2 ppb                |
| 06/18/18             | Sodium                        | Well #1         | 35.0 mg/L           | 3000 mg/L  | 3000 mg/L   |                      |

<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.

**Our water is tested by Legend Technical Service of Arizona,  
an independent laboratory with offices in Tucson and Phoenix**

| <u>Date Analyzed</u> | <u>Contaminant Tested For</u> | <u>Location</u> | <u>Test Results</u> | <u>MCL</u> |
|----------------------|-------------------------------|-----------------|---------------------|------------|
| 05/16/19             | Sulfate                       | Well #1         | 24.4 mg/L           | NO MCL     |
| 05/16/19             | Sulfate                       | Well #2         | 44.2 mg/L           | NO MCL     |
| 05/16/19             | Total Dissolved Solids        | Well #1         | 221 mg/L            | NO MCL     |
| 05/16/19             | Total Dissolved Solids        | Well #2         | 276 mg/L            | NO MCL     |

**Note:** These were not "Compliance" samples. Green Valley Water District took these samples to create a baseline for monitoring the effects of the Sulfate plume present in the Green Valley Area.

### Disinfectant Byproducts

| <u>Date Analyzed</u>         | <u>Contaminant Tested For</u> | <u>Location</u>       | <u>Test Results</u>         | <u>MCL</u>   |
|------------------------------|-------------------------------|-----------------------|-----------------------------|--------------|
| 07/24/19                     | Chloroform                    | Various               | 0.0005 mg/L to 0.0012 mg/L  | NO MCL       |
|                              | Bromodichloromethane          | Various               | 0.0015 mg/L to 0.0031 mg/L  | NO MCL       |
|                              | Dibromochloromethane          | Various               | 0.0032 mg/L to 0.0068 mg/L  | NO MCL       |
|                              | Bromoform                     | Various               | 0.0028 mg/L to 0.0092 mg/L  | NO MCL       |
|                              | Total Trihalomethanes (TTHM)  | Various               | 0.0081 mg/L to 0.0203 mg/L  | 0.080 mg/L   |
|                              | 07/24/19                      | Monochloroacetic Acid | Various                     | <0.0020 mg/L |
| Dichloroacetic Acid          |                               | Various               | <0.0010 mg/L                | NO MCL       |
| Trichloroacetic Acid         |                               | Various               | <0.0010 mg/L                | NO MCL       |
| Monobromoacetic Acid         |                               | Various               | <0.0010 mg/L                | NO MCL       |
| Dibromoacetic Acid           |                               | Various               | <0.0010 mg/L to 0.0025 mg/L | NO MCL       |
| Total Haloacetic Acid (HAA5) |                               | Various               | <0.0020 mg/L to 0.0025 mg/L | 0.060 mg/L   |

Annual Water Quality Report 2019

| <u>Date Analyzed</u> | <u>Contaminant Tested For</u> | <u>90th Percentile AND Number</u> | <u>Range of All Samples (L-H)</u> | <u>Number Of Samples</u> | <u>AL</u> | <u>ALG</u> |
|----------------------|-------------------------------|-----------------------------------|-----------------------------------|--------------------------|-----------|------------|
| 07/10/19             | Copper                        | 0.13 mg/L                         | 0.026 mg/L - 0.23 mg/L            | 20                       | 1.3 mg/L  | 1.3 mg/L   |
| 07/10/19             | Lead                          | <0.005 mg/L                       | <0.0050 mg/L -                    | 20                       | 15 ppb    | 0          |

**Lead Informational Statement:** 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. Green Valley Water District is responsible for providing high quality drinking water but cannot control the variety of materials used in household 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).

**Volatile Organic Compounds (VOC) Monitoring**

| <u>Date Analyzed</u> | <u>Contaminant Tested For</u> | <u>Location</u> | <u>MCL</u> | <u>Trigger Value</u> | <u>Test Results</u> |
|----------------------|-------------------------------|-----------------|------------|----------------------|---------------------|
| 06/25/18             | Benzene                       | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Carbon Tetrachloride          | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Chlorobenzene                 | Well #1         | 0.1 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | o-Dichlorobenzene             | Well #1         | 0.6 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Styrene                       | Well #1         | 0.1 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | 1,1-Dichloroethylene          | Well #1         | 0.007 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | 1,1,1-Trichloroethane         | Well #1         | 0.2 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | 1,1,2-Trichloroethane         | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | 1,2-Dichloroethane            | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | 1,2-Dichloropropane           | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | cis-1,2-Dichloroethylene      | Well #1         | 0.07 mg/L  | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Ethylbenzene                  | Well #1         | 0.7 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | p-Dichlorobenzene             | Well #1         | 0.075 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Tetrachloroethylene           | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Toluene                       | Well #1         | 1.0 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Trans-1,2-Dichloroethylene    | Well #1         | 0.1 mg/L   | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Trichloroethylene             | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Vinyl Chloride                | Well #1         | 0.002 mg/L | 0.0005 mg/L          | <0.0003 mg/L        |
| 06/25/18             | Xylenes, total                | Well #1         | 10.0 mg/L  | 0.0015 mg/L          | <0.0005 mg/L        |
| 06/25/18             | 1,2,4-Trichlorobenzene        | Well #1         | 0.07 mg/L  | 0.0005 mg/L          | <0.0005 mg/L        |
| 06/25/18             | Dichloromethane               | Well #1         | 0.005 mg/L | 0.0005 mg/L          | <0.0005 mg/L        |

| <u>Microbiological (RTCR)</u>                           | <u>TT Violation Y or N</u>   | <u>Number of Positive Samples</u> | <u>Positive Sample(s) Month &amp; Year</u> | <u>MCL</u> | <u>MCLG</u> |
|---------------------------------------------------------|------------------------------|-----------------------------------|--------------------------------------------|------------|-------------|
| E. Coli                                                 | N                            | 0                                 | N/A                                        | 0          | 0           |
| Fecal Indicator (coliphage, enterococci and/or E. coli) | N                            | 0                                 | N/A                                        | 0          | 0           |
| <b>Likely Source of Contamination</b>                   | Human and animal fecal waste |                                   |                                            |            |             |

| <u>Disinfectants</u>                  | <u>MCL Violation Y or N</u>             | <u>Running Annual Average (RAA)</u> | <u>Range of All Samples (Low-High)</u> | <u>MRDL</u> | <u>MRDLG</u> |
|---------------------------------------|-----------------------------------------|-------------------------------------|----------------------------------------|-------------|--------------|
| Chlorine/Chloramine (ppm)             | N                                       | 0.57                                | 0.45 – 0.82                            | 4           | 0            |
| <b>Likely Source of Contamination</b> | Water additive used to control microbes |                                     |                                        |             |              |

Annual Water Quality Report 2019

| Synthetic Organic Chemicals (SOC)  | 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                                                              |
|------------------------------------|----------------------|--------------------------------------------------------|---------------------------------|-----|------|---------------------|---------------------------------------------------------------------------------------------|
| 2,4-D (ppb)                        | N                    | <0.0001                                                |                                 | 70  | 70   | 6/18/18             | Runoff from herbicide used on row crops                                                     |
| 2,4,5-TP (a.k.a. Silvex) (ppb)     | N                    | <0.0002                                                |                                 | 50  | 50   | 6/18/18             | Residue of banned herbicide                                                                 |
| Acrylamide                         | N                    | <0.0005                                                |                                 | TT  | 0    | 6/18/18             | Added to water during sewage / wastewater treatment                                         |
| Alachlor (ppb)                     | N                    | <0.0001                                                |                                 | 2   | 0    | 6/18/18             | Runoff from herbicide used on row crops                                                     |
| Atrazine (ppb)                     | N                    | <0.00005                                               |                                 | 3   | 3    | 6/18/18             | Runoff from herbicide used on row crops                                                     |
| Benzo (a) pyrene (PAH) (ppt)       | N                    | <0.00002                                               |                                 | 200 | 0    | 6/18/18             | Leaching from linings of water storage tanks and distribution lines                         |
| Carbofuran (ppb)                   | N                    | <0.0005                                                |                                 | 40  | 40   | 6/18/18             | Leaching of soil fumigant used on rice and alfalfa                                          |
| Chlordane (ppb)                    | N                    | <0.0001                                                |                                 | 2   | 0    | 6/18/18             | Residue of banned termiticide                                                               |
| Dalapon (ppb)                      | N                    | <0.001                                                 |                                 | 200 | 200  | 6/18/18             | Runoff from herbicide used on rights of way                                                 |
| Di (2-ethylhexyl) adipate (ppb)    | N                    | <0.0006                                                |                                 | 400 | 400  | 6/18/18             | Discharge from chemical factories                                                           |
| Di (2-ethylhexyl) phthalate (ppb)  | N                    | <0.0006                                                |                                 | 6   | 0    | 6/18/18             | Discharge from rubber and chemical factories                                                |
| Dibromochloropropane (ppt)         | N                    | <0.00001                                               |                                 | 200 | 0    | 6/18/18             | Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards       |
| Dinoseb (ppb)                      | N                    | <0.001                                                 |                                 | 7   | 7    | 6/18/18             | Runoff from herbicide used on soybeans and vegetables                                       |
| Diquat (ppb)                       | N                    | <0.0004                                                |                                 | 20  | 20   | 6/18/18             | Runoff from herbicide use                                                                   |
| Dioxin [a.k.a. 2,3,7,8-TCDD] (ppq) | N                    | <0.000000005                                           |                                 | 30  | 0    | 6/18/18             | Emissions from waste incineration and other combustion; discharge from chemical factories   |
| Endothall (ppb)                    | N                    | <0.005                                                 |                                 | 100 | 100  | 6/18/18             | Runoff from herbicide use                                                                   |
| Endrin (ppb)                       | N                    | <0.00001                                               |                                 | 2   | 2    | 6/18/18             | Residue of banned insecticide                                                               |
| Epichlorohydrin                    | N                    | <0.001                                                 |                                 | TT  | 0    | 6/18/18             | Discharge from industrial chemical factories; an impurity of some water treatment chemicals |
| Ethylene dibromide (ppt)           | N                    | <0.00001                                               |                                 | 50  | 0    | 6/18/18             | Discharge from petroleum refineries                                                         |
| Glyphosate (ppb)                   | N                    | <0.006                                                 |                                 | 700 | 700  | 6/18/18             | Runoff from herbicide use                                                                   |
| Heptachlor (ppt)                   | N                    | <0.00001                                               |                                 | 400 | 0    | 6/18/18             | Residue of banned termiticide                                                               |
| Heptachlor epoxide (ppt)           | N                    | <0.00001                                               |                                 | 200 | 0    | 6/18/18             | Breakdown of heptachlor                                                                     |
| Hexachlorobenzene (ppb)            | N                    | <0.00005                                               |                                 | 1   | 0    | 6/18/18             | Discharge from metal refineries and agricultural chemical factories                         |
| Hexachlorocyclo pentadiene (ppb)   | N                    | <0.00005                                               |                                 | 50  | 50   | 6/18/18             | Discharge from chemical factories                                                           |
| Lindane (ppt)                      | N                    | <0.00001                                               |                                 | 200 | 200  | 6/18/18             | Runoff/leaching from insecticide used on cattle, lumber, gardens                            |
| Methoxychlor (ppb)                 | N                    | <0.00005                                               |                                 | 40  | 40   | 6/18/18             | Runoff/leaching from insecticide used on fruits, vegetables, alfalfa,                       |
| Oxamyl (a.k.a. Vydate) (ppb)       | N                    | <0.0005                                                |                                 | 200 | 200  | 6/18/18             | Runoff/leaching from insecticide used on apples, potatoes and tomatoes                      |
| Pentachlorophenol (ppb)            | N                    | <0.00004                                               |                                 | 1   | 0    | 6/18/18             | Discharge from wood preserving factories                                                    |
| Picloram (ppb)                     | N                    | <0.0001                                                |                                 | 500 | 500  | 6/18/18             | Herbicide runoff                                                                            |
| Simazine (ppb)                     | N                    | <0.00005                                               |                                 | 4   | 4    | 6/18/18             | Herbicide runoff                                                                            |
| Toxaphene (ppb)                    | N                    | <0.0005                                                |                                 | 3   | 0    | 6/18/18             | Runoff/leaching from insecticide used on cotton and cattle                                  |



**Annual Water Quality Report 2019**

| Date Analyzed | Contaminant Tested For     | Location | Test Results | PQL  | Units |
|---------------|----------------------------|----------|--------------|------|-------|
| 04/20/17      | Calcium                    | S-6      | 51           | 1.0  | mg/L  |
| 04/20/17      | Magnesium                  | S-6      | 7.4          | 1.0  | mg/L  |
| 04/20/17      | Potassium                  | S-6      | 2.9          | 1.0  | mg/L  |
| 04/20/17      | Sodium                     | S-6      | 31           | 1.0  | mg/L  |
| 04/20/17      | Calcium Hardness as CaCO3  | S-6      | 130          | 2.5  | mg/L  |
| 04/20/17      | Magnesium Hardness as CaCO | S-6      | 31           | 4.1  | mg/L  |
| 04/20/17      | Total Hardness as CaCO3    | S-6      | 160          | 4.1  | mg/L  |
| 04/20/17      | Total Alkalinity as CaCO3  | S-6      | 169          | 10   | mg/L  |
| 04/20/17      | Bicarbonate Alkalinity     | S-6      | 169          | 10.0 | mg/L  |
| 04/20/17      | Chloride                   | S-6      | 13.1         | 5.0  | mg/L  |
| 04/20/17      | Sulfate                    | S-6      | 36.2         | 5.0  | mg/L  |

**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 CaCO3. The widespread abundance of these metals in rock formations leads often to very considerable hardness levels in surface and ground waters.

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

- |                                    |                                      |
|------------------------------------|--------------------------------------|
| Soft up to 50 mg/l CaCO3           | Moderately Hard 151-250 mg/l CaCO3   |
| Moderately Soft 51-100 mg/l CaCO3  | Hard 251-350 mg/l CaCO3              |
| Slightly Hard 101 - 150 mg/l CaCO3 | Excessively Hard over 350 mg/l CaCO3 |

## District Business

### ***Two Projects Benefitting the District***

During January 2020, the Green Valley Water District began the drilling process for a new well on Placita De La Colonia. Once completed, it will replace the existing well at the same site. The new well is deeper than the current well at that location and with proper care, the new well should last for several decades to come.



This fall the Green Valley Water District office will be relocating to 3200 South Camino Del Sol. This move comes at the end of a long process of researching area options to provide the best results for the future of the District.

For the first time since the District's formation in 2003, both office and field staff will be housed in the same location and all tools and equipment will be stored under cover to protect from sun damage and lengthen useful life. The facility has more functional space for staff, easier access for customers, as well as a large meeting room for board functions and Public Hearings. We look forward to welcoming you to visit our new home later this fall.

The District office hours are 7:00 am to 4:00 pm, Monday through Friday.

If you are interested in attending one of the Board of Directors meetings, they meet on the fourth Thursday of each month.

Board meeting and public notices pertaining to the operations of the District are posted outside the door of our office.

Please visit our website at [www.gvwaterdistrict.com](http://www.gvwaterdistrict.com) Our customers will be able to find information on the District and conservation tips. There is a link provided to contact us through the website. Our customers also have the availability to sign up for alerts by email, cell phones or

| <b>Violation Summary (for MCL, MRDL, AL, TT, or Monitoring &amp; Reporting Requirement)</b> |                                                        |                    |                                                                                                                     |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Violation Type</b>                                                                       | <b>Explanation, Health Effects</b>                     | <b>Time Period</b> | <b>Corrective Actions</b>                                                                                           |
| Late Reporting                                                                              | We sent out Lead and Copper notices after the due date | July 2019          | We sampled for Lead and Copper in the correct time period but submitted the data to Home Owners after the due date. |
| Late Reporting                                                                              | We reported CCR to ADEQ after the due date             | July 2019          | We provided CCR to customers in the correct time period but submitted the data to ADEQ after the due date.          |

|                                                                                                                                                                                                                                                                                                                                                                          |                                                                                         |                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <p><b>Green Valley Water District</b><br/> 3290 S. Camino Del Sol<br/> P.O. Box 623<br/> Green Valley, AZ 85622</p> <p><b>Phone</b><br/> (520) 625-9112</p> <p><b>Emergency Phone<br/> After Hours</b><br/> (520) 625-9112</p> <p><b>Fax</b><br/> (520) 648-5146</p> <p><b>E-mail</b><br/> office@gvwaterdistrict.com</p> <p><b>Website</b><br/> gvwaterdistrict.com</p> | <p><b>GREEN VALLEY WATER DISTRICT</b><br/> P.O. BOX 623<br/> GREEN VALLEY, AZ 85622</p> | <p>Presorted<br/> First Class<br/> Mail<br/> U.S. Postage Paid<br/> Green Valley, AZ<br/> Permit No. 30</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|