Distribution System Detections 2018:

<table>
<thead>
<tr>
<th>Contaminant (units)</th>
<th>Maximum Contaminant Level</th>
<th>MCLG</th>
<th>Results</th>
<th>MCL Violation</th>
<th>Sources in Drinking water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead (ppb)</td>
<td>Action level = 15 ppb</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
</tr>
<tr>
<td>Copper (ppm)</td>
<td>Action level = 1.3 ppm</td>
<td>1.3</td>
<td>0.25</td>
<td>0</td>
<td>Corrosion of household plumbing systems; Erosion of natural deposits</td>
</tr>
</tbody>
</table>

**EPA Revised Total Coliform Rule**

Effective April 1, 2016, the U.S. EPA revised the 1989 Total Coliform Rule, to augment public health protection by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The EPA anticipates stronger public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a monthly maximum contaminant level violation for multiple total coliform detections. Instead the new rule requires water systems to conduct any assessments in 2018. Chandler was not required to conduct any assessments in 2018.

**Disinfection Byproducts**

**Total Trihalomethanes (TTHMs)**

Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience health problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

**Haloacetic Acids (HAA5)**

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
The City of Chandler Public Works & Utilities Department is committed to providing a safe supply of drinking water to our customers. As a result of this strong commitment, the City of Chandler routinely performs more tests on the water residing in every home to ensure it is meeting all regulatory requirements. We issue this annual report describing the quality of your drinking water to comply with State and Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines for the protection of your drinking water. Much of the language used is mandated by these regulations. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect your drinking water sources. We are proud to report Chandler’s water meets, or exceeds, all health and safety standards set by the County, State, and Federal government regulatory agencies for 2018. This brochure provides valuable information about your drinking water, including information about its source and quality.

### About your Water Supply

The drinking water distributed by the City of Chandler to its customers comes from three sources:

- The Chandler Surface Water Treatment Plant (SWTP) treats and disinfects water from the Salt River, Verde River, East Verde River, Central Arizona Project (Colorado River), and Salt River Project (SRP) wells whose water is transported to Chandler via the Consolidated Canal.
- 31 active wells supply groundwater from aquifers underlying Chandler. Groundwater is disinfected with chlorine prior to being introduced into the City’s water distribution system.
- The City of Chandler and the Town of Gilbert jointly own the Southeast Regional Water Treatment Plant (SWTP) located in the Town of Gilbert. This facility currently treats and distributes up to 12 million gallons per day of Colorado River water from the Central Arizona Project to each city. We have included compliance information supplied by the SWTP. The Town of Gilbert’s annual Water Quality Report can also be accessed at www.gilbertaz.gov/departments/public-works/water/reports.

### City of Chandler Water Supply Statistics

- 20.97 billion gallons of drinking water was supplied to Chandler water users in 2018. (A daily average of 57.5 million gallons.)
- Chandler’s SWTP produced 10.4 billion gallons, or 49.6% of the City’s total drinking water.
- Groundwater produced 5.4 billion gallons, or 25.8% of the City’s total drinking water.
- The SWTP supplied 5.2 billion gallons, or 24.6% of the City’s total drinking water.

### Drinking Water and your Health

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.

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 can be more susceptible to health risks from contaminants in water than the rest of the population.

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 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 and 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 that can be naturally-occurring or 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 spray drift.
- **Organic Chemicals**: Such as 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 result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

In order to ensure tap water is safe to drink, the EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water providing that the water is safe for public health. Information on these regulations may be obtained by calling 1-888-INFODFA (463-3332). Contaminants of concern for drinking water are subject to regulatory requirements for analysis on three-year cycles. The City of Chandler sampled all of its water sources for applicable contaminants in 2018.

### Unregulated Contaminant Monitoring Regulation

The 1996 amendments to the Safe Drinking Water Act required the EPA to establish criteria for a program to monitor unregulated contaminants and publish a list of up to 30 contaminants to be monitored every five years. The intent of this rule is to provide baseline occurrence data that can be used to make decisions about potential future drinking water regulations. The EPA published the final rule for the Fourth Unregulated Contaminant Monitoring Rule (UCMR4) to meet this requirement in the Federal Register on December 20, 2016, Chandler’s assigned sampling period began in July 2018 and will continue into 2019. As of the end of 2018, nineteen of the 30 contaminants that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

### Detected Unregulated Contaminant (UCMR4):

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Detected (Y/N)</th>
<th>Average Range of All Samples (Low-High)</th>
<th>MRL Likely Source of Contamination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germicidal (ppt)</td>
<td>Y</td>
<td>0.34 – 0.74</td>
<td>Naturally-occurring element; commonly available in combination with other elements and minority radionuclides, used in disinfection of food, supplemental uses, and environmental and industrial applications.</td>
</tr>
<tr>
<td>Manganese (ppt)</td>
<td>Y</td>
<td>0.40 – 5.0</td>
<td>Naturally-occurring element; commonly available in combination with other elements and mineral; used in steel production, fertilizers, batteries and fireworks, drinking water and wastewater treatment chemical; essential nutrient.</td>
</tr>
<tr>
<td>Haloacetic Acids (HAA) (ppt)</td>
<td>Y</td>
<td>51.67 – 240</td>
<td>2</td>
</tr>
</tbody>
</table>
Protecting Chandler’s Water Supply

Backflow Prevention
The City of Chandler has a backflow prevention program ensuring proper installation and maintenance of thousands of backflow prevention devices throughout the City. These devices ensure hazards originating on customer’s property and from temporary connections do not impair or alter the water in the City’s water distribution system. Return of any water to the City’s water distribution system after the water has been used for any purpose on the customer’s premises or within the customer’s piping system is unacceptable. Backflow prevention devices range from vacuum breakers on household hose bibs to large commercial reduced-pressure principal devices found throughout the City.

Source Water Assessment and Protection Program (SWAP)
The Arizona Department of Environmental Quality (ADEQ) completed a source water assessment for drinking water wells and surface water sources for Chandler’s public water system in 2005. The assessment reviewed adjacent land uses that may pose a potential risk to water sources. These risks include, but are not limited to, gas stations, landfills, dry cleaners, agriculture fields, wastewater treatment plants, and mining activities. Once ADEQ identified the adjacent land uses, they were ranked on their potential to affect the water source.

All surface water sources are considered high risk due to their exposure to open air. The overall risk posed to surface water is addressed by EPA through its increased monitoring requirements for surface water sources.

Two of Chandler’s drinking water wells were considered high risk based on adjacent land use criteria. The Chandler public water system conducts regular monitoring of drinking water entering the water distribution system from all wells to ensure land uses have not impacted the source water.

Based on the information currently available on the hydrogeologic settings and the adjacent land uses that are in the specified proximity of the drinking water source(s) of this public water system, the Arizona Department of Environmental Quality (ADEQ) has given a high risk designation for the degree to which this public water system drinking water source(s) are protected. A designation of high risk indicates there may be additional source water protection measures which can be implemented on the local level. This does not imply that the source water is contaminated nor does it mean that contamination is imminent. Rather, it simply states that land use activities or hydrogeologic conditions exist that make the source water susceptible to possible future contamination.

Further source water assessment documentation can be obtained by contacting or visiting ADEQ at 1110 W. Washington, Phoenix, Arizona 85007, between the hours of 8:00 a.m. and 5:00 p.m. or visit website at www.azdeq.gov/source-water-protection.

Storm Water Pollution Prevention Tips

“Be the solution to storm water pollution” – common storm water pollutants include sediment, motor oil and other vehicle fluids, pet waste, yard debris, metals, pesticides, fertilizers and herbicides, to name a few. For more information on storm water pollution prevention, please go to www.chandleraz.gov and search “stormwater”.

Guidelines for Everyday Pollution Prevention – “Only Rain In the Storm Drain”

- Sweep yard debris and properly dispose of in the trash, rather than blowing or hosing into the street.
- Contain pool or spa water on private property or dispose of it in the sanitary sewer cleanout associated with your home. Draining pool water into the street or other City right-of-way is prohibited by City Code. For more information call 480-782-3507 or search “pool drainage” at www.chandleraz.gov.
- Use fertilizers and pesticides sparingly and as directed by the manufacturer.
- Pick up after your pet and properly dispose of the waste in the trash.
- Wash your car on a lawn or other unpaved surface, or use a commercial car wash.
- Always use a nozzle on your garden hose around the home. Do not let the water free flow into the street.
- Maintain vehicles to be free of leaks and do not park leaking vehicles on the street.
- Do not over-water your lawn.
- Report illegal dumping into streets and storm drains by calling 480-782-3503 or at www.chandleraz.gov.
- Minimize your purchase and use of hazardous products. Dispose of unused quantities properly. Please contact Solid Waste Services at 480-782-3510 for proper disposal guidelines of hazardous waste materials such as used motor oil and other similar fluids.
**Seasonal changes in flavor**

The flavor of Chandler's drinking water may change at certain times of the year, depending on the water source. Chandler works with SRP to minimize algae in the canal system and to provide treatment at the SWTP to reduce off-flavors and odors. Arizona State University and the City of Chandler have partnered to routinely monitor for taste and odor precursors in the Consolidated Canal. This allows the treatment plant to have more precise control over taste and odor events and to better utilize resources and manage cost.

**Who do I contact with questions about Chandler's Drinking Water?**

If you have any questions about your tap water or the information in this report, please call 480-782-3660 during normal business hours (8:00 a.m. to 5:00 p.m., Monday through Friday). You can also visit our website at www.chandleraz.gov. Citizens who wish to address the City Council about water issues may do so at regularly scheduled City Council meetings normally held the 2nd and 4th Thursday of each month. The meetings are held at Chandler City Hall Council Chambers, 175 S. Arizona Avenue. For information about specific meeting times and agenda items, please contact the City Clerk's office at 480-782-2180, or visit http://www.chandleraz.gov and click on Government tab and then select City Council Agendas & Minutes from the drop down menu on the home page.

If you have questions or desire more information, visit www.chandleraz.gov/waterquality, or call (480) 782-3660 Monday through Friday 8 a.m. – 5 p.m., or mail your inquiry to City of Chandler, Mail Stop 803, P.O. Box 4008, Chandler, AZ 85244-4008.

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**Santan Vista System Compliance Data 2018:**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Units</th>
<th>Maximum Contaminant Level</th>
<th>Average (of samples)</th>
<th>Range of samples (Low to high)</th>
<th>Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Organic Carbon Removal Ratio</td>
<td>ppm</td>
<td>TT= must be ≥ 1.0</td>
<td>20</td>
<td>16.10 – 24.70</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

**Santan Vista Detected Unregulated Contaminant (UCMR3):**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Units</th>
<th>MRL</th>
<th>Average (of samples)</th>
<th>Range of Samples (Low to high)</th>
<th>Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vanadium</td>
<td>ppb</td>
<td>0.07</td>
<td>2.8</td>
<td>2.8- single sample</td>
<td>Erosion of natural deposits, also used in industrial processes</td>
</tr>
<tr>
<td>Chlorate</td>
<td>ppb</td>
<td>20.0</td>
<td>85</td>
<td>85- single sample</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>ppb</td>
<td>1.0</td>
<td>5.1</td>
<td>5.1- single sample</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Strontium</td>
<td>ppb</td>
<td>0.2</td>
<td>1000</td>
<td>1000 - single sample</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

**Santan Vista Detected Disinfection By-product Contaminant 2018:**

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Units</th>
<th>MCL</th>
<th>Average (of samples)</th>
<th>Range of samples (Low to high)</th>
<th>Sources in Drinking Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromate</td>
<td>ppb</td>
<td>10</td>
<td>5</td>
<td>2.1 – 8.4</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>(THM5s) Total Trihalomethanes</td>
<td>ppb</td>
<td>80</td>
<td>14</td>
<td>14</td>
<td>By-product of drinking water disinfection</td>
</tr>
</tbody>
</table>

**Notes:**

* Some average values are less than the low range due to substituting non-detect (<) values with zero, per the regulations governing compliance calculations.

**Definitions:**

**Action Level (AL):** The concentration of a contaminant, which if exceeded, triggers treatment or other requirements that a water system must follow.

**Average (of samples):** The average of all samples taken during the monitoring period.

**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 more 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

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

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

**Non-Applicable (N/A):** EPA has not set MCLs or MCLGs for these substances.

**P/A equals Presence or Absence**

**Parts per million (ppm):** Parts per million are a measurement of concentration of substances dissolved in water. One ppm is equivalent to one gallon in one million gallons. Parts per billion (ppb): Parts per billion are a measurement of concentration of substances dissolved in water. One ppb is equivalent to one gallon in one billion gallons. A ppb is one thousand times smaller than a ppm.

**Picocuries per liter (pCi/L):** A measure of the radioactivity of a substance.

**Range (of samples):** The lowest analytical result reported to the highest analytical result reported. All other analytical results fall between these two numbers.

**Total Organic Carbon (TOC):** 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.

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

**Turbidity:** 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.