

WATER QUALITY REPORT 2017

PWS ID# AZ0414024



This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it. Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

To Our Valued Water Customers:

The City of Yuma, Utilities Department, is proud to provide you with our Annual Water Quality Report. The information contained within this report covers all drinking water testing performed in calendar year 2017. 2017 was a very busy year for the Department. We completed a much needed update to our five year strategic plan. The plan will help guide us in making better decision to ensure we continue to meet our customer's needs. We are also very proud of our new "Yuma Cares", low income assistance program that we implemented this past summer. The program allows our customers to donate money when they pay their City of Yuma Utility bill to help those less fortunate. The program has been a big success and just

shows how much our community supports those in need. If you haven't done so, the next time you pay your utility bill on-line, click on the "Yuma Cares" link to learn how you can help.

If you have any questions, comments or concerns about the information contained within this report, I encourage you to either contact myself or my staff. We are always excited to provide you, our customers, answers to your questions. Thank you.

Sincerely, Jay Simonton, M.P.A.
Director of Utilities



Our state certified operators work 24/7 to provide clean affordable tap water to our community.



Capital Improvement Project to improve our infrastructure. Filter rehabilitation at the Main Street Water Treatment Facility.



Treated water flows over the sedimentation basin weirs at Main Street Water Treatment Facility.

More information about our water

In 2004, the Arizona Department of Environmental Quality completed a source water assessment for the Yuma Main Canal, "A" Main Canal, and groundwater wells used by the City of Yuma. The assessment reviewed the adjacent land uses that may pose a potential risk to the sources. The result of the assessment was adjacent land use with low risk to all source water. For a complete copy of the assessment contact dml@azdeq.gov or call 602-771-4641 or visit the ADEQ's Source Water Assessment and Protection Unit website at www.azdeq.gov/environ/water/dw/swap.html.

Variations and Exemptions (ADEQ or EPA permission not to meet an MCL or a treatment technique under certain conditions):

The City of Yuma was granted a waiver from the Enhanced Coagulation and Enhanced Softening rules on October 25, 2017, by the Arizona Department of

Environmental Quality. The waiver was based on two years of research performed on City of Yuma water. The data confirmed that the Colorado River water at Yuma is not amenable to the requirements of the rule. The waiver remains in effect as long as the running annual average for Total Trihalomethanes (TTHM) remains below 0.064mg/L, and Haloacetic Acids (HAA5) remains below 0.048 mg/L.

CRYPTOSPORIDIUM

The EPA's Long Term 2 Enhanced Surface Water Treatment Rule required Yuma and other large water systems to conduct monthly monitoring for cryptosporidium in their source water. In 2015, the City of Yuma began the twenty-four month LT2ESWTR source water monitoring for cryptosporidium. The results range from not detected (ND) to 0.348 oocysts per liter.

The results from the testing show that the City of Yuma's source water meets the

lowest classification for Cryptosporidium and requires no additional treatment.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates, although infrequent, these organisms are present in our source 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, infants and small children, and the elderly are at greater risk of developing life-threatening

illness. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

QUESTIONS?

If you have any questions about this report or the quality of our drinking water, please contact Betsy Bowman, Laboratory Director, at the Utilities Treatment Laboratory, (928) 329-2893.

E-mail address:

Betsy.Bowman@yumaaz.gov

City of Yuma Home Page:

www.yumaaz.gov

Laboratory Direct Web Page:

Laboratory Direct Web Page:
www.yumaaz.gov/7666.htm

EPA Safe Water Hotline: (800) 426-4791

Arizona Department of

Environmental Quality: (800) 234-5677

Substances That Could Be in Water

All drinking water, including bottle 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. 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. More information about contaminants and potential health effects can be obtained by calling the environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or visit online at www.epa.gov/safewater/hotline. The Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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, in some cases, radioactive material; and 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, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.



2,742
water samples

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections.

These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from contact with materials and components associated with service lines and home plumbing. The City of Yuma 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. If you are concerned about lead in your water, you may wish to have your water tested. 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.

UCMR3 Sampling

We participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report. Contact us for more information on this program.



488
gallons
for \$1.00



33,098
water meters



16,864
water valves



Where does our water come from? And how is it treated?

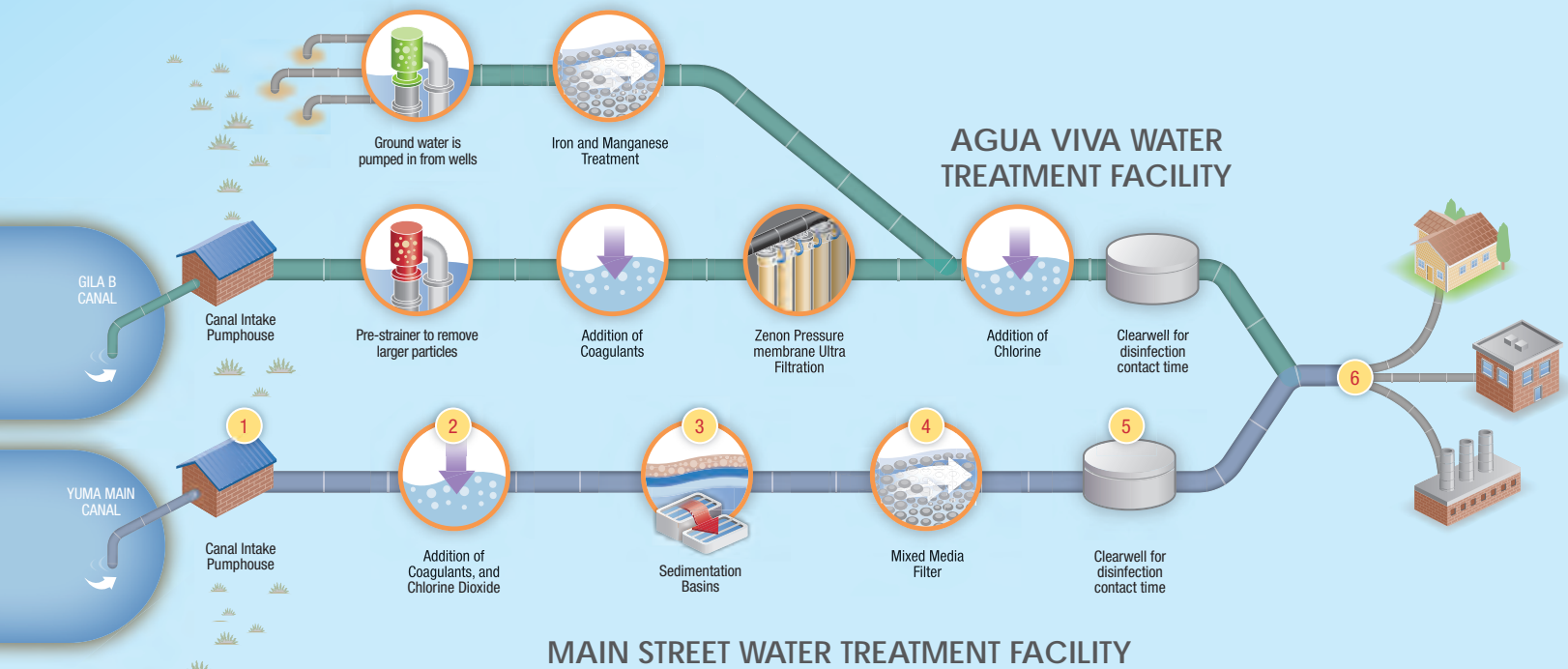
The main source of Yuma's drinking water is surface water from the Colorado River, which is delivered to the Treatment Facilities via the canal systems. Our water is treated by two distinctive water treatment plants with differing technologies. The Main Street Treatment Facility is a conventional surface water treatment plant. The Agua Viva Water Treatment Facility treats surface water and ground water. The treatment process for both plants is depicted in the graphic below.

The Agua Viva Water Treatment Facility uses a series of ground water wells. Ground water is pumped from the wells. Chlorine is added, followed by treatment for iron and manganese removal. The treated groundwater enters into

storage tanks prior to disinfection and being distributed in the water system.

The surface water treatment process uses an advanced membrane treatment technology. Raw water is sent through a 500-micron screen, adding alum to coagulate particles, then sent to the membrane ultra-filtration system. After the water passes through the membranes, treated water will receive a dose of fluoride to prevent tooth decay. Finally the water will enter into storage tanks prior to disinfection and being distributed in the water system.

The Agua Viva Water Treatment Facility may use surface water, ground water, or a blend of both prior to distribution in the water system.



City of Yuma Main Street Water Treatment Facility uses conventional water treatment methods.

- 1 Raw water is pumped from the Yuma Main Canal.
- 2 Raw water is dosed with chlorine dioxide for algae control, alum and polymer for coagulation.
- 3 The coagulants continue to mix in the water to create floc as the water makes its way through the sedimentation basins. This causes small particles in the water to adhere to one another (called floc), making them heavy enough to settle to the bottom of the sedimentation basin.
- 4 The water then flows the dual media filters, (sand and anthracite) which filter out the remaining unsettled particle matter. As smaller, suspended particles are removed, turbidity disappears and clear water emerges.
- 5 Filtered water enters the clear well which provides contact time for the post chlorinated water. This allows for disinfection of any bacterial contamination in the water and provides a chlorine residual for the distribution system. Fluoride (Hydrofluosilicic Acid) is added to prevent tooth decay.
The entire process is continually monitored and tested in order to ensure that the process and water meets or exceeds state and federal regulation. After the clear water well, the water is of excellent quality and is ready for distribution and use.
- 6 The water is then pumped to the City's distribution and storage system. The water is distributed throughout the City of Yuma for residential, commercial and industrial use via more than 500 miles of pipelines.

COMMUNITY PARTICIPATION

Your input on water quality is always welcome. The City of Yuma's Water and Sewer Commission is a group of citizens developing ideas and providing advice to the Utilities Director on a range of water and wastewater issues. Our Water and Sewer Commission meets on-call at 5:00 p.m. in the Department of Public Works Administrative Conference Room. The public is invited. Contact the Utilities Department at (928) 373-4500 for more information regarding meeting dates.



SAMPLING RESULTS: During 2017, City of Yuma collected over 2742 water samples to have 128 tests analyzed. The city's drinking water met all state and federal regulatory standards to safeguard public health. The data tables present 2017 test results and corresponding water quality standards. The table below shows only those contaminants that were detected in the water. The state requires monitoring for certain substances less than once per year because those substances are well below the established limits. In those cases the most recent sample data are included, along with the year in which the sample was taken.

| REGULATED SUBSTANCES | | | | | | | | | |
|--|-----------------|---------------|-----------------|--------------------|-------------------|--------------------|-------------------|-----------|--|
| Substance (Unit of Measure) | Year Sampled | MCL (MRCL) | MCLG (MRCLG) | MAIN STREET | | AGUA VIVA | | Violation | Source |
| | | | | Amount Detected | Range Low-High | Amount Detected | Range Low-High | | |
| Alpha Emitters (pCi/L) | 2017 | 15 | 0 | 0.2 | N/A | ND | N/A | No | Erosion of natural deposits |
| Arsenic (ppb) | 2017 | 10 | 0 | 2.1 | N/A | 2.2 | N/A | No | Erosion of natural deposits. Runoff from orchards; Runoff from glass and electronic production wastes. |
| Barium (ppm) | 2017 | 2 | 2 | 0.096 | N/A | 0.091 | N/A | No | Discharges of drill wastes; Discharge from metal refineries; Erosion of natural deposits |
| Fluoride (ppm) | 2017 | 4 | 4 | 0.49 | N/A | 0.44 | N/A | No | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| Nitrate (ppm) | 2017 | 10 | 10 | 0.26 | N/A | 0.23 | N/A | No | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| Sodium (ppm) | 2017 | No MCL | N/A | 140 | N/A | 140 | N/A | | Naturally present in the environment |
| Turbidity (NTU) | 2017 | TT | N/A | 0.08 | 0.02-0.08 | 0.49 | 0.02-0.49 | No | Soil runoff |
| Turbidity (Lowest monthly percent of samples meeting limit.) | 2017 | TT | TT | 100% | N/A | 100% | N/A | No | Soil runoff |
| Comb. Uranium (ppb) | 2017 | 30 | 0 | 2.5 | N/A | 4 | N/A | No | Erosion of natural deposits |

| DISTRIBUTION SYSTEM | | | | | | | |
|--|-----------------|--|--------------|--------------------|-------------------|-----------|--|
| Substance (Unit of Measure) | Year Sampled | MCL (MRDL) | MCLG (MRDLG) | Amount Detected | Range Low-High | Violation | Source |
| Chlorine (ppm) | 2017 | [4] | [4] | 1.70 | ND - 1.70 | No | Water additive used to control microbes. |
| Chlorite (ppm) | 2017 | 1 | 0.8 | 0.53 | 0.16-0.53 | No | |
| Total Coliform Bacteria (% positive samples) | 2017 | MCL = 5% of monthly samples are positive | N/A | 0.08 | N/A | No | Naturally present in the environment. |

| Substance (Units of Measure) | Year Sampled | MCL (MRDL) | MCLG (MRDLG) | Range Low-High | Violation | Source |
|-------------------------------------|--------------|------------|--------------|----------------|-----------|--|
| Haloacetic Acids (HHAs) (ppb) | 2017 | 60 | NA | 8-14 | No | By-product of drinking water disinfection. |
| TTHMs (Total Trihalomethanes) (ppb) | 2017 | 80 | NA | 35-63 | No | By-product of drinking water disinfection. |

TABLE DEFINITIONS
ppm (parts per million): One part substance per million parts water (or milligrams per liter).
ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).
pCi/L (picocuries per liter): A measure of radioactivity.
NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
MCL (Maximum Contaminant Level): 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.
MCLG (Maximum Contaminant Level Goal): 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.
MR: The maximum residence time for a water system is the longest period of time that any water produced will remain in the distribution system
MRDL (Maximum Residual Disinfectant Level): 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.
MRDLG (Maximum Residual Disinfectant Level Goal): 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.
NA: Not applicable
ND (Not detected): Indicates that the substance was not found by laboratory analysis.
TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.
AL (Action level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

| LEAD AND COPPER SAMPLINGS FROM RESIDENTIAL WATER TAPS | | | | | | | |
|---|-----------------|-------|------|----------------------------|-------------------------------|-----------|--|
| Substance (Units of Measure) | Year Sampled | AI | MCLG | Amount Detected 90%tile | Sites above AI/Total sites | Violation | Source |
| Copper (ppm) | 2015 | 1.3 | 1.3 | 0.084 | 0 / 90 | No | Corrosion of household plumbing system; Erosion of natural deposits. |
| Lead (ppb) | 2015 | 0.015 | 0 | 0.70 | 0 / 90 | No | Corrosion of household plumbing system; Erosion of natural deposits. |

| UNREGULATED CONTAMINANT MONITORING REGULATION (UCMR3) | | | | | |
|---|------------------|----------------|----------------|---------------|--------------------------------------|
| Location | Main Street EPDS | Main Street MR | Agua Viva EPDS | Agua Viva MR | |
| Year Sampled | 2013/2014 | 2013/2014 | 2013/2014 | 2013/2014 | |
| Range | Low-High | Low-High | Low-High | Low-High | |
| Substance (Units of Measure) | Typical Source | | | | |
| bromochloromethane (ppb) | 0.066 - 0.23 | NA | NA | NA | Used as a fire-extinguishing fluid |
| chlorate (ppb) | <20 - 82 | 78 - 120 | 210 - 400 | 220 - 390 | Agricultural defoliant or desiccant |
| chromium (total) (ppb) | NA | NA | <0.2 - 0.23 | NA | Naturally present in the environment |
| chromium-6 (ppb) | NA | NA | <0.03 - 0.032 | <0.03 - 0.033 | Naturally present in the environment |
| molybdenum (ppb) | 5.2 - 10 | 4.7 - 5.6 | 4.6 - 5.0 | 4.6 - 5.7 | Naturally present in the environment |
| strontium (ppb) | 1100 - 2100 | 1000 - 1200 | 980 - 1100 | 950 - 1200 | Naturally present in the environment |
| vanadium (ppb) | 1.8 - 3.6 | 1.7 - 2.7 | 1.6 - 2.8 | 1.6 - 2.7 | Naturally present in the environment |