

WATER QUALITY REPORT 2016

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.

City of Yuma Utilities, your water services department.

The City of Yuma is committed to providing the highest quality tap water and reliable services to our residents. This Consumer Confidence Report, also known as Water Quality Report, summarizes the results of thousands of tests and measurements performed at the City of Yuma's water treatment plants and throughout the water distribution system. In 2016, the tap water delivered to over 110,000 customers by the City of Yuma Utilities Department met or surpassed all federal and state drinking water standards.

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. You can contact the Utilities Department at (928) 373-4500 for more information regarding meeting dates.



Substances That Could Be in Water

To ensure that tap water is safe to drink, Arizona Department of Environmental Quality prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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;

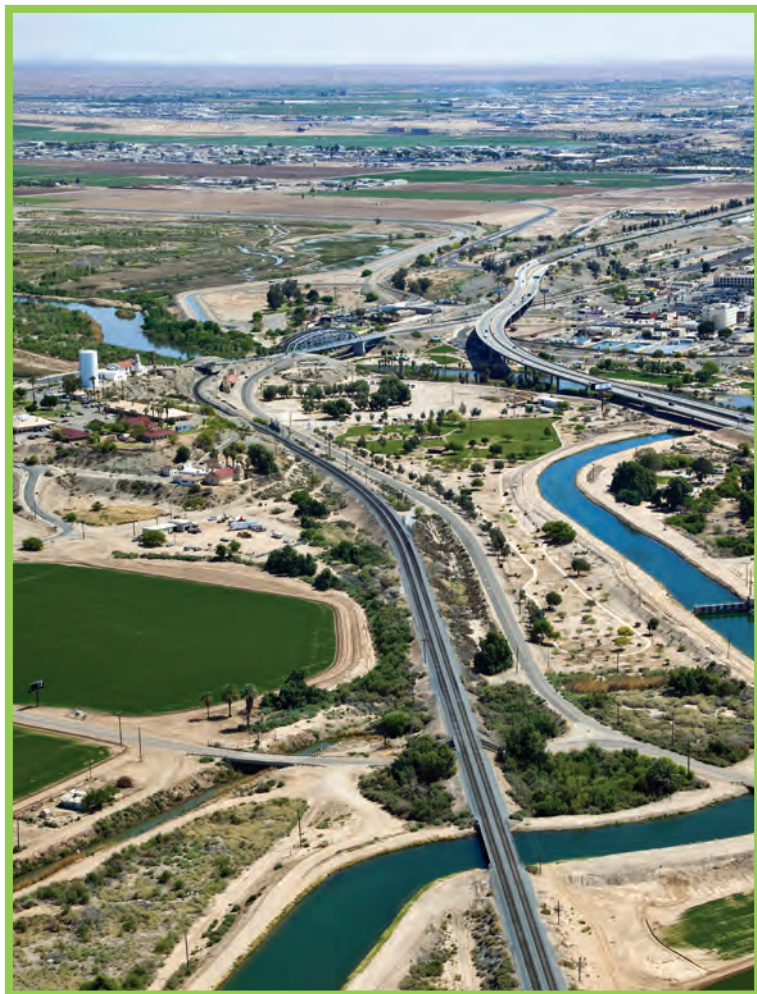
Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants in tap water and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (800) 426-4791 or visit online at www.epa.gov/safewater/hotline. Information on bottled water can be obtained from the U.S. Food and Drug Administration.

Message from the EPA

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>.

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not



necessarily indicate that the water poses a health risk. 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.

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 materials and components associated with service lines and home plumbing. We are 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 Regulation (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.

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

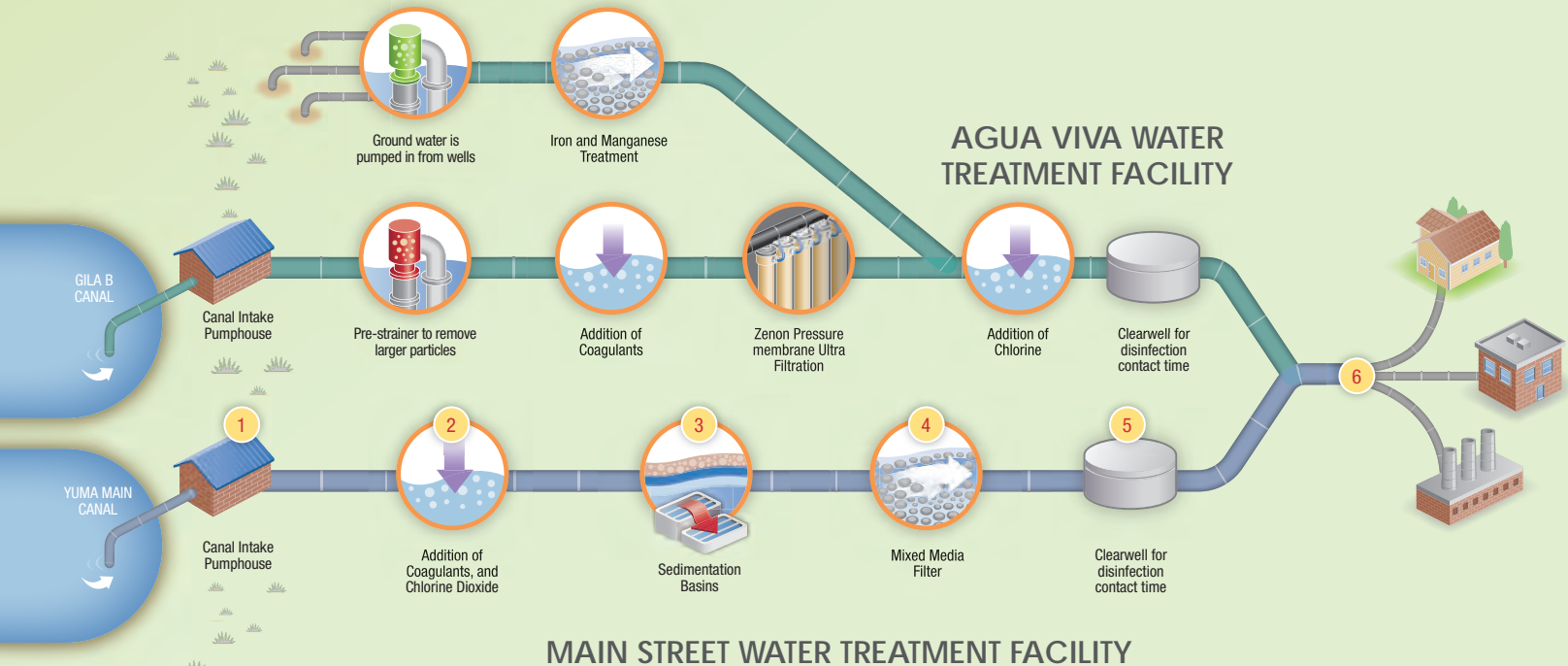
The main source of Yuma's drinking water is surface water from the Colorado River, which is delivered to the Treatment Facilities via the canal systems. Our water is treated by two distinctive water treatment plants with differing technologies. The Main Street Treatment Facility is a conventional surface 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 advance 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.



MAIN STREET WATER TREATMENT FACILITY
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.

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/envirom/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 July 2, 2002, 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.

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.

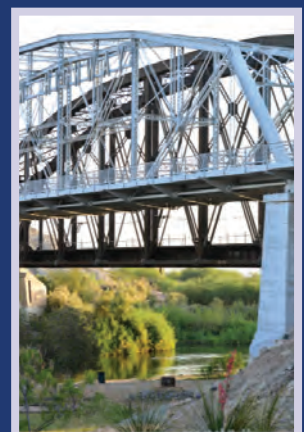
E-mail address:
Betsy.Bowman@yumaaz.gov

City of Yuma Home Page:
www.yumaaz.gov

Laboratory Direct Web Page:
<http://www.yumaaz.gov/utilities/utilities-treatment-division/laboratory.html>

EPA Safe Water Hotline: (800) 426-4791

Arizona Department of Environmental Quality: (800) 234-5677



SAMPLING RESULTS: During 2016 the City of Yuma conducted all water quality testing required by state and federal regulations plus many more tests than regulations required. Testing revealed the city's drinking water quality met all regulatory standards set to safeguard public health. The data tables present 2016 test results and corresponding water quality standards. The table below shows only those contaminants that were detected in the water.

The state requires us to monitor for certain substance less than once per year because the concentrations of substances do not change frequently. 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)	2011	15	0	1.3	N/A	ND	N/A	No	Erosion of natural deposits
Arsenic (ppb)	2016	10	0	1.4	N/A	1.5	N/A	No	Erosion of natural deposits. Runoff from orchards; Runoff from glass and electronic production wastes.
Barium (ppm)	2016	2	2	0.12	N/A	0.098	N/A	No	Discharges of drill wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	2016	4	4	0.41	N/A	0.39	N/A	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (ppm)	2016	10	10	0.26	N/A	0.26	N/A	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium (ppm)	2016	No MCL	N/A	120	N/A	120	N/A		Naturally present in the environment
Turbidity (NTU)	2016	TT	N/A	0.067	0.027-0.067	0.449	0.022-0.449	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit.)	2016	TT	TT	100%	N/A	100%	N/A	No	Soil runoff
Uranium (ppb)	2011	30	0	2.8	N/A	5.8	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)	2016	(4)	(4)	1.70	ND-1.70	No	Water additive used to control microbes.
Total Coliform Bacteria (% positive samples)	2016	MCL = 5% of monthly samples are positive		N/A	0.00	N/A	Naturally present in the environment.
Substance (Units of Measure)	Year Sampled	MCL (MRDL)	MCLG (MRDLG)	Range Low-High	Violation	Source	
Haloacetic Acids (HHAs) (ppb)	2016	60	NA	5.9-17	No	By-product of drinking water disinfection.	
TTHMs (Total Trihalomethanes) (ppb)	2016	80	NA	15-72	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.
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	0/100	No	Corrosion of household plumbing system; Erosion of natural deposits.
Lead (ppb)	2015	15	0	0.70	0/100	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