

Presented By



Annual
**WATER
QUALITY
REPORT**

Reporting Year 2011

To Our Valued Water Customers:

The City of Yuma Utilities Department is proud to provide you with our 2011 annual water quality report. This report presents important information on the City of Yuma's drinking water quality. It also discusses our local raw water supplies and our commitment and methods to turn these into drinking water you can trust, delivered to your tap everyday.

Sincerely,

Jay Simonton, M.P.A.
Utilities Director

Source Water Assessment

In 2004, the Arizona Department of Environmental Quality completed a source water assessment for the Yuma Main Canal, "A" Main Canal, and ground water 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, call (602) 771-4641, or visit the ADEQ's Source Water Assessment and Protection Unit Web site at www.azdeq.gov/environ/water/dw/swap.html.

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 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.

QUESTIONS?

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

- E-mail address:
Betsy.Bowman@yumaaz.gov
- City of Yuma Home Page:
www.yumaaz.gov
- Laboratory Direct Web Page:
www.yumaaz.gov/7666.htm
- Environmental Protection Agency:
(800) 426-4791
- Arizona Department of Environmental Quality:
(800) 234-5677

You're Invited to Participate in Yuma's Water Quality Future

The City of Yuma's Water and Sewer Commission is a group of City staff and 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 Department of Public Works 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, the 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 online at www.epa.gov/safewater/hotline. Information on bottled water can be obtained from the U.S. Food and Drug Administration.

Where Does My Water Come From?

The main source of Yuma's drinking water is surface water from the Colorado River and is delivered to the Treatment Facilities via the canal system.

The Main Street Treatment Facility is a conventional water treatment plant. Surface water is treated with coagulant chemicals to help the sediment to collect and drop to the bottom of the sedimentation basins. The water is sent through slow sand filters, and chlorine is added for disinfection. Treated water is then sent out to the distribution system and storage tanks.

The Agua Viva Water Treatment Facility presently treats ground water and surface water. The ground water is treated for iron and manganese. Water drawn from a well is ground water. In 2009, the expansion of the Agua Viva Water Treatment Facility to produce 24 million gallons per day of surface water was completed. Treated ground water and surface water are blended together and disinfected prior to distribution in the system.

Our Continuing Commitment to You

City of Yuma Utilities Department's trained, licensed water professionals are committed to:

- High-quality drinking water meeting all regulatory standards
- A proactively maintained and reliable water system
- A forward-thinking approach anticipating future community needs and regulations

We know that our customers value their tap water. We appreciate the community support and investment critical to achieving our mission!

Variances and Exemptions

Variances and exemptions are 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 0.064 mg/L and Haloacetic Acids (HAA5) remains below 0.048 mg/L.



Who uses the most water?

On a global average, most freshwater withdrawals—69 percent—are used for agriculture, while industry accounts for 23 percent and municipal use (drinking water, bathing and cleaning, and watering plants and grass) just 8 percent.

How much water does a person use every day?

The average person in the U.S. uses 80 to 100 gallons of water each day. During medieval times, a person used only 5 gallons per day.

Should I be concerned about what I'm pouring down my drain?

If your home is served by a sewage system, your drain is an entrance to your wastewater disposal system and eventually to a drinking water source. Consider purchasing environmentally friendly home products whenever possible, and never pour hazardous materials (e.g., car engine oil) down the drain. Check with your health department for more information on proper disposal methods.

How long does it take a water supplier to produce one glass of water?

It can take up to 45 minutes to produce a single glass of drinking water.

How much emergency water should I keep?

Typically, 1 gallon per person per day is recommended. For a family of four, that would be 12 gallons for 3 days. Humans can survive without food for 1 month, but can only survive 1 week without water.

Where does a water molecule spend most of its time on Earth?

In a 100-year period, a water molecule spends 98 years in the ocean, 20 months as ice, about 2 weeks in lakes and rivers, and less than a week in the atmosphere.

How many community water systems are there in the U.S.?

About 53,000 public water systems across the United States process 34 billion gallons of water per day for home and commercial use. Eighty-five percent of the population is served by these systems.

Water Quality Testing Results

The City of Yuma conducted all the water quality testing in 2011 required by federal and state regulations. Indeed, the city conducted many more tests than regulation required. Testing revealed the city’s drinking water quality met all regulatory standards set to safeguard public health. The results tables present 2011 results and corresponding water quality standards.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES									
				Main Street Treatment Facility		Agua Viva Treatment Facility			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2011	15	0	1.3	NA	ND	NA	No	Erosion of natural deposits
Arsenic ¹ (ppb)	2011	10	0	5	NA	5.8	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2011	2	2	0.1	NA	0.11	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	2011	4	4	0.3	NA	0.29	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2011	10	10	0.38	NA	0.34	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Turbidity ² (NTU)	2011	TT	NA	0.106	0.044–0.106	0.507	0.012–0.507	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2011	TT	NA	100	NA	100	NA	No	Soil runoff
Uranium (ppb)	2011	30	0	2.8	NA	5.8	NA	No	Erosion of natural deposits
Distribution System									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE		
Chlorine (ppm)	2011	[4]		[4]	1.0	0.01–1.0	No	Water additive used to control microbes	
Haloacetic Acids [HAAs] (ppb)	2011	60		NA	11	3.2–29	No	By-product of drinking water disinfection	
TTHMs [Total Trihalomethanes] (ppb)	2011	80		NA	47	17–78	No	By-product of drinking water disinfection	
Total Coliform Bacteria (% positive samples)	2011	5% of monthly samples are positive		0	0.08	NA	No	Naturally present in the environment	
Tap water samples were collected for lead and copper analyses from sample sites throughout the community									
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2009	1.3	1.3	0.065	0/52	No	Corrosion of household plumbing systems; Erosion of natural deposits		
Lead (ppb)	2009	15	0	0.75	0/52	No	Corrosion of household plumbing systems; Erosion of natural deposits		

INITIAL DISTRIBUTION SYSTEM EVALUATION (IDSE) ³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Haloacetic Acids [HAA]–IDSE Results (ppb)	2008	NA	2–14	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2008	NA	10–97	By-product of drinking water disinfection

¹While your drinking water meets the U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The U.S. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. 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.

²Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

³We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water when disinfectants combine with organic matter that naturally occurs in the source water.

AL (Action level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

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.

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.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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