

ANNUAL

WATER QUALITY REPORT

Water testing performed in 2008



City of YUMA
"Making Yuma Better!"

PWS ID#: 14024

The Water We Drink

The Utility Department employees at the City of Yuma are very proud to provide you with the 2008 Annual Drinking Water Quality Report. We want to keep you informed about the water and services we delivered to you over the past year. Our primary commitment is, and always will be, to provide a safe and dependable supply of tap water to more than 103,000 customers, 24 hours a day, seven days a week.

We staff the Utility Division with water treatment and distribution system operators who have passed certification with the Arizona Department of Environmental Quality. Throughout 2008, the tap water met or surpassed all federal and state drinking water standards.

The Utility Division employees remain vigilant in our commitment to you. We tested for more than 100 substances and conducted thousands of measurements and tests throughout the treatment and distribution systems to ensure your safety. Even with the best water treatment, it is not always possible to remove all contaminants. To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain substances in water provided by public water systems.

The City of Yuma tests your tap water every day. In addition to continuous monitoring for turbidity and chlorine residual, 1,582 samples were collected, and 4,038 analyses were performed for 240 parameters. Our state-certified laboratories use equipment to detect substances in the water in quantities as small as one part per billion (an equivalent comparison would be one second in the life of a 32 year old person). This report is a snapshot of Yuma's drinking water quality between January and December 2008. The City of Yuma's Public Water System Identification Number is 14024.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA 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 visiting online at www.epa.gov/safewater/hotline. Information on bottled water can be obtained from the U.S. Food and Drug Administration.

Variations and Exemptions

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 ppm and Haloacetic Acids (HAA5) remains below 0.048 ppm. Through a Variance or Exemption, ADEQ or EPA gives permission not to meet an MCL or a treatment technique under certain conditions.

Important Health Information

Some people may be more vulnerable than the general population to contaminants in drinking water. 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 from their health care providers about drinking water. U.S. EPA and 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.

Community Participation

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.

Source Water Assessment

In 2004, the Arizona Department of Environmental Quality (ADEQ) 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. 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 as to their potential to affect the water source.

The result of the assessment was adjacent land use with low risk to all source water. 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 dml@azdeq.gov. For more information, call Susanna Hitchcock, Water Quality Assurance Supervisor with the City of Yuma, at (928) 373-4536 or visit the ADEQ's Source Water Assessment and Protection Unit Web site at www.azdeq.gov/environ/water/dw/swap.html.

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



Lead and Drinking Water

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. The City of Yuma Utilities Department 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, (800) 426-4791, or at www.epa.gov/safewater/lead.

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 Main Street Treatment Facility via the canal system. The Agua Viva Water Treatment Facility presently uses well water. Three wells supply water to the facility. The well water is treated for iron and manganese and is chlorinated prior to distribution in our system. Water drawn from a well is groundwater. The City of Yuma owns the land around the well and restricts activities that could contaminate it. The Agua Viva Water Treatment Facility will be expanded to produce 24 million gallons per day of surface water.



Q: WHAT MAKES WATER HARD?

A: If substantial amounts of either calcium or magnesium, both nontoxic minerals, are present in drinking water, the water is said to be hard. Hard water does not dissolve soap readily, so making lather for washing and cleaning is difficult. Conversely, water containing little calcium or magnesium is called soft water.

Q: HOW MUCH WATER IS LOST TO A DRIPPING FAUCET?

A: Dripping faucets waste a precious resource and it costs you money. As an example, if you have a faucet that drips 60 times a minute, this adds up to over 3 gallons each day or 1,225 gallons each year.

Q: HOW LONG CAN I STORE DRINKING WATER?

A: The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

Q: SHOULD I PUT A BRICK IN MY TOILET TANK TO SAVE WATER?

A: Toilet flushing uses a lot of water: about 40% of a household's total water usage. Putting something in the toilet tank that takes up space, like a toilet dam or a water filled jug, is a good idea. But putting a brick in the tank is not a good idea. Bricks tend to crumble and might damage your toilet.

Test Results

The data in this report are from the most recent testing that was done within the last five years on the required contaminants. Depending on the contaminant, required testing may be performed daily, monthly, quarterly, annually, or every five years. This report lists only the substances that were detected in the water. The State requires us to monitor for certain substances less than once per year because the concentration of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the samples were taken.

REGULATED SUBSTANCES				Main Street Treatment Facility		Agua Viva Treatment Facility		VIOLATION	TYPICAL SOURCE
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Alpha Emitters ¹ (pCi/L)	2005	15	0	<1.0	0.6–<1.0	0.9	0.2–1.0	No	Erosion of natural deposits
Arsenic (ppb)	2008	10	0	2	NA	2	NA	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2008	2	2	0.12	NA	0.081	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	2008	100	100	ND	NA	1.4	NA	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium ¹ (pCi/L)	2005	5	0	0.5	ND–0.5	0.4	0.3–0.4	No	Erosion of natural deposits
Fluoride (ppm)	2008	4	4	0.59	NA	0.59	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Turbidity ² (NTU)	2008	TT	NA	0.137	0.20–0.137	0.151	0.019–0.151	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT	NA	100%	NA	100%	NA	No	Soil runoff
Uranium ¹ (pCi/L)	2005	30	0	6.6	5.2–6.6	8.8	5.7–8.8	No	Erosion of natural deposits

City of Yuma Distribution System

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2008	MRDL=4	MRDLG=4	1.90	ND–1.90	No	Water additive used to control microbes
HAAs [Haloacetic Acids] (ppb)	2008	60	NA	13	2–13	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	56	10–71	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2008	5% of positive monthly samples are positive	0	0.31%	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)	2006	1.3	1.3	0.055	0/59	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2006	15	0	0.75	0/59	No	Corrosion of household plumbing systems; Erosion of natural deposits

IDSE SAMPLING RESULTS³

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	RANGE LOW-HIGH	TYPICAL SOURCE
HAAs [Haloacetic Acids] (ppb)	2008	0.0010–0.013	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppm)	2008	0.010–0.097	By-product of drinking water disinfection

¹ We were granted reduced monitoring for radionuclides in 2006; we are scheduled to monitor in 2012.

² Turbidity 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.

³ We 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 (i.e., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

Definitions

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.