

# ARIZONA WATER COMPANY

## – 2009 ANNUAL WATER QUALITY REPORT FOR CASA GRANDE, ARIZONA, PWSID #11-009 –

This report contains important information about your drinking water. *Este informe contiene información muy importante sobre su agua beber.*

Arizona Water Company provides groundwater to its Casa Grande customers from wells located throughout the central portions of Casa Grande. **The water supplied by the Company meets all state and federal safe drinking water standards.**

The data in the accompanying tables are from water samples that have been analyzed by independent laboratories, which are certified by the Arizona Department of Health Services.

### DETECTED WATER QUALITY CONSTITUENTS

Water Quality Constituent	Units	MCLG	MCL	Highest Level Detected	Range of Levels Detected	Sample Year	Likely Source of Detected Constituent **
<b>Microbiological</b>							
1. Total Coliform Bacteria	%	0	5	3.2	0 - 1	2009	Naturally present in the environment
<b>Radionuclides</b>							
2. Alpha emitters	pCi/L	0	15	8.7	0.8 - 8.7	2008	Erosion of natural deposits
3. Uranium	ppb	0	30	9.2	nd - 9.2	2008 & 2009	Erosion of natural deposits
<b>Inorganics</b>							
4. Arsenic	ppb	0	10 RAA	8 RAA	nd - 9.4	2009	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
5. Barium	ppm	2	2	0.08	nd - 0.08	2008	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
6. Cadmium	ppb	5	5	0.3	nd - 0.3	2008	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
7. Chromium	ppb	100	100	35	nd - 35	2008	Discharge from steel and pulp mills; erosion of natural deposits
8. Fluoride	ppm	4	4	2.14	nd - 2.14	2008 & 2009	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
9. Nitrate (as Nitrogen)	ppm	10	10	9.93	1.09 - 9.93	2009	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Disinfectants and Disinfection Byproducts</b>							
Water Quality Constituent	Units	MRDLG	MRDL	Running Annual Average	Range of Levels Detected	Sample Year	Likely Source of Detected Constituent **
10. Chlorine	ppm	4	4	1.13	0.34 - 2.23	2009	Water additive used to control microbes
Water Quality Constituent	Units	MCLG	MCL	Running Annual Average	Range of Levels Detected	Sample Year	Likely Source of Detected Constituent **
11. Haloacetic Acids (five)	ppb	n/a	60	1.2	nd - 2.4	2009	By-product of drinking water disinfection
12. Total Trihalomethanes	ppb	n/a	80	16.2	1 - 31.5	2009	By-product of drinking water chlorination
<b>Unregulated Synthetic Organics, Unregulated Volatile Organics, and Other Unregulated Constituents</b>							
Water Quality Constituent	Units	Average Level Detected		Range of Levels Detected	Sample Year	Likely Source of Detected Constituent **	
13. Sodium	ppm	137		19 - 245	2008	Unknown	
<b>Constituents Subject to an Action Level</b>							
Water Quality Constituent	Units	Action Level	90 <sup>th</sup> Percentile of Sample Results	Number of Samples That Exceeded the Action Level	Sample Year	Likely Source of Detected Constituent **	
14. Copper	ppm	1.3	0.032	0	2007	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	

\*\* Sources of constituents are unknown, but are generally believed to be resulting from those sources listed.

In developing new drinking water standards, the EPA has proposed including Radon on the regulated contaminant list with an MCL of 300 to 4000 pCi/L. Arizona Water Company collected samples at a number of its wells in the Casa Grande water system in 1999 and found the average level of Radon to be 483 pCi/L, with a range from 360 to 630 pCi/L. Additional information on Radon is available from the Safe Drinking Water Hotline (800-426-4791).

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

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

In addition to the water quality constituents listed in the above table, Arizona Water Company's water supplies were tested for the following constituents and such constituents were **not detected**: Fecal Coliform, Antimony, Asbestos, Beryllium, Cyanide, Lead, Mercury (inorganic), Nitrite (as Nitrogen), Selenium, Thallium, 2,4-D, 2,4,5-TP (Silvex), Alachlor, Atrazine, Benzo(a)pyrene (PAH), Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromochloropropane, Dinoseb, Diquat, Endothal, Endrin, Ethylene Dibromide, Glyphosate, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), Pentachlorophenol, Picloram, Polychlorinated Biphenyls, Simazine, Toxaphene, Benzene, Carbon Tetrachloride, (Mono)Chlorobenzene, o-Dichlorobenzene, p-Dichlorobenzene, 1,2-Dichloroethane, 1,1-Dichloroethylene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Styrene, Tetrachloroethylene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Toluene, Vinyl Chloride, Xylenes, Aldicarb, Aldicarb Sulfone, Aldicarb Sulfoxide, Aldrin, Bromobenzene, Bromodichloromethane, Bromoform, Bromomethane (Methyl Bromide), Butachlor, Carbaryl, Chlorodibromomethane, Chloroethane, Chloroform, Chloromethane, o-Chlorotoluene, p-Chlorotoluene, Dibromomethane, Dicamba, m-Dichlorobenzene, 1,1-Dichloroethane, 2,2-Dichloropropane, 1,3-Dichloropropane, 1,1-Dichloropropene, 1,3-Dichloropropene,

Dieldrin, 3-Hydroxycarbofuran, Methomyl, Metholachlor, Metribuzin, Propachlor, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane and 1,2,3-Trichloropropane, Nickel, Acetochlor, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4,4'-DDE, DCPA-acid metabolites, EPTC, Molinate, MTBE, Nitrobenzene, Terbacil, Perchlorate, Combined Radium 226/228, and UCMR 2 List 1.

Monitoring results for the Unregulated Contaminant Monitoring Regulation (UCMR2) Compounds are available at your local office. For more information on the monitoring results, please contact the Casa Grande Division Manager at 520-836-8785.

Note: Data presented are from the most recent testing done in accordance with applicable regulations. Some constituents are monitored less frequently than once a year because either their concentrations do not change frequently or they are not likely to be detected. Therefore, some of the water quality testing data contained herein, although representative, may be more than one year old. If you have questions about this water quality report, please contact Judd Williams, Vice President of Operations, Arizona Water Company, P.O. Box 29006, Phoenix, Arizona 85038-9006. Telephone (602) 240-6860 or email mail@azwater.com.

In 2004, the Arizona Department of Environmental Quality (ADEQ) completed a Source Water Assessment of eleven ground water wells, which are the sources of water used by Arizona Water Company's Casa Grande water system. The Assessment reviewed the adjacent land uses that may pose a potential risk to the wells. These risks include, but are not limited to: gas stations, landfills, dry cleaners, agriculture fields, waste water treatment plants, and mining activities. Once ADEQ identified the adjacent land uses, they were ranked as to their potential to affect the wells. The result of the Assessment was a low risk to all the sources.

Residents can help protect sources by practicing good septic system maintenance, taking hazardous household chemicals to hazardous material collection sites, and limiting pesticide and fertilizer use.

The complete Assessment is available for inspection at the ADEQ, 1110 West Washington Street, 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](mailto:dml@azdeq.gov). For more information, call Regina Lynde, Environmental Compliance Supervisor at Arizona Water Company at 602-240-6860 or visit the ADEQ's Source Water Assessment and Protection Unit website at: [www.azdeq.gov/environ/water/dw/swap.html](http://www.azdeq.gov/environ/water/dw/swap.html).

#### REQUIRED NOTICE FOR FLUORIDE

This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community water system has a fluoride concentration of 2.14 mg/l.

Dental fluorosis in its moderate or severe forms may result in a brown staining and or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

Drinking water containing more than 4 mg/l of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/l because of this cosmetic problem.

For more information, please call Ray Murrieta of Arizona Water Company's Casa Grande Division at 520-385-2226. Some home

#### The EPA requires that Arizona Water Company provide the following information:

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of various contaminants does not necessarily indicate that 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 (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised 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 particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Constituents that may be present in source water include: (A) Microbials, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. (B) Inorganics, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. (D) Organics, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also, come from gas stations, urban stormwater runoff, and septic systems. (E) Radionuclides, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain constituents in water provided by public water systems. FDA regulations establish limits for constituents in bottled water which must provide the same protection for public health.

#### DEFINITIONS, ABBREVIATIONS, AND UNIT DESCRIPTIONS:

AL	= Action Level, the concentration of a constituent, which, if exceeded, triggers treatment, or other requirements, which a water system must follow.
MCL	= Maximum Contaminant Level, the highest level of a constituent 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 constituent in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MRDL	= Maximum Residual Disinfection Level, the highest level of a constituent that is allowed in drinking water.
MRDLG	= Maximum Residual Disinfection Level Goal, the level of a constituent in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety.
RAA	= An average of monitoring results for the previous twelve calendar months.
EPA	= The United States Environmental Protection Agency
FDA	= The United States Food And Drug Administration
CDC	= The United States Centers For Disease Control
ppm	= Parts per million, or milligrams per liter (mg/l)
ppb	= Parts per billion, or micrograms per liter (µg/l)
pCi/L	= Picocuries per liter (a measure of radioactivity)
n/a	= None adopted
nd	= None detected

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