



2004 Water Quality Report

Hub Service Area

Metro Water Meets Safe Drinking Standards

Metro Water District is pleased to report that the water we deliver at your tap meets safe drinking water standards.

This is the seventh annual water quality report required by the federal government under the Safe Drinking Water Act.

Metro Water is committed to providing information about your water supply. We believe customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.

Where Does Your Water Come From?

The drinking water in Metro's Hub service area is groundwater from the northeast portion of the Tucson Basin aquifer. Our aquifer was created primarily from mountain runoff and storm water infiltrating beneath the ground along Sabino Canyon and Tanque Verde Creek.

Our 5 active wells pump water from the local aquifer. Depth to water is 59 to 87 feet.

Water from wells is placed in storage tanks or reservoirs. The water is then pressurized to move underground through pipes to reach your home.

While water is made up of hydrogen and oxygen, this life-giving liquid also contains many naturally occurring minerals. Such minerals affect the taste and hardness of your water. The make-up of water varies only slightly from one well to another in the Hub service area.

Unfortunately, human-caused and bacterial contaminants can also be found in water. This is why the Safe Drinking Water Act exists.



From its source to your tap, Metro Water delivers quality water.

How do you know your water is safe?

Metro Water District regularly checks its water for contaminants. The District monitored 106 constituents during the year to meet federal and state regulations as well as to test for constituents that may be regulated in the near future. This was accomplished at the cost of \$56,000.

How is your water tested?

Trained staff collect water samples from wells, storage facilities, points in the distribution system, and even at residents' homes. The samples are then taken to a state licensed laboratory for analysis. The test results are reported to the District and to the State of Arizona. The District works closely with the Arizona Department of Environmental Quality to ensure all water quality standards are met.

What happens if the water tested indicates contamination?

If a constituent is found that does not comply with safe drinking water standards, the District is

required by federal and state regulation to notify customers within the affected service area. Notification may be made by a letter or through the media.

If a serious situation occurs that may affect the health and well-being of our customers, the District would do whatever is necessary to warn you and provide an alternate source of safe drinking water.

What contaminants might be detected?

The table on the following page shows you the 11 regulated contaminants that Metro Water District detected in 2004 or during the most recent sampling period. These detections are usually only in a particular area, not throughout the Hub service area.

Metro also sampled for 61 other regulated contaminants in 2004, as required by safe water drinking standards, as well as 34 unregulated contaminants. None of those contaminants were found in your drinking water by our state licensed laboratory.

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.



The source of our tap drinking water is from wells. As water travels through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up dissolved substances resulting from the presence of plants, animals or from human activity.

Contaminants that may be present in our water include microbial, such as viruses and bacteria; inorganic, such as salts and metals; pesticides & herbicides; organic chemical contaminants, both synthetic and volatile; and radioactive contaminants.

These above-noted contaminants can be man-made or naturally-occurring. Microbial contaminants may come from sewage treatment plants, septic systems, residential uses, agricultural livestock operations, and wildlife. Inorganic contaminants can result from urban stormwater runoff, industrial or domestic wastewater discharges, or mining. Pesticides & herbicides may come from many sources, such as agriculture, urban runoff and residential use. Radioactive contaminants can be naturally-occurring or from mining activities. Organic chemical contaminants can come from landfills, gas stations, urban runoff and septic systems.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems.



EPA nationally warns that:

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 (1-800-426-4791).

Is your water treated?

Metro Water District does treat its water with chlorine.



Chlorine is added to eliminate any type of bacterial contamination that could occur in the water pipes. In 2004, the Metro Hub service area had no detections of bacteria.

If you detect a chlorine taste or odor, leave a container of water in the sunlight for two hours or try storing water overnight in the refrigerator.

Metro Water District strives to protect our water and works to ensure that safe drinking water will be delivered to you. Metro Water District encourages its customers to participate in water issues, including using water wisely. We want to know your opinions, suggestions - - and even your complaints.

You are always welcome to attend meetings of the District's Board of Directors. The Board regularly meets the second Monday of each month at 6:00 p.m. at the District's office, 6265 N. La Cañada Drive.

2004 Detected Regulated Contaminants Report for Metro's Hub Service Area

Water Quality Parameter	Levels Detected by Metro Water Highest & Lowest		Highest Level Allowed (EPA's MCL)*	Ideal Goal (EPA's MCLG)*	Units*	Potential Sources of Contaminant
Regulated by Testing in the Distribution System						
Total Trihalomethanes (TTHM)	4.7	<0.5	80**	0	ppb	Disinfection by-product of drinking water chlorination.
Regulated by Testing at Where the Water Enters the Distribution System						
Alpha Emitters	3.3	1.7	15	0	pCi/L	Erosion of natural deposits.
Arsenic	12	2.6	50	0	ppb	Erosion of natural deposits; Runoff from agriculture.
Barium	99	<2	2000	2000	ppb	Erosion of natural deposits; Discharge from well drilling muds; Leaching from bricks and tiles containing barium.
Combined Radium	0.8	<0.4	5	0	pCi/L	Erosion of natural deposits.
Di(2-ethylhexyl) phthalate	0.8	<0.6	6	0	ppb	Runoff from rubber and chemical products and manufacturing.
Fluoride	1.4	0.41	4	4	ppm	Erosion of natural deposits; Discharge from fertilizer production.
Nitrate (as Nitrogen)	3.0	<1	10	10	ppm	Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits.
Uranium	3	<0.6	30	0	ppb	Erosion of natural deposits.
Water Quality Parameter	90th Percentile Level	Sampling Sites Exceeding the Action Level	EPA Contaminant Action Level (AL)*	EPA Maximum Contaminant Level Goal (MCLG)*	Units	Potential Sources of Contaminant
Regulated by Testing Water from Customer Homes						
Copper (2002 data)	240	0	1300	1300	ppb	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
Lead (2002 data)	4	0	15	0	ppb	Corrosion of household plumbing systems; Erosion of natural deposits.

***DEFINITIONS:** EPA - acronym for the U.S. Environmental Protection Agency **MAXIMUM CONTAMINANT LEVEL (MCL)** - The highest level of a contaminant that is allowed in a drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology. **MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)** - 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. **ACTION LEVEL (AL)** - The concentration of a contaminant which, if exceeded triggers a treatment or other requirements which a water system must follow. **ppm** - parts per million

ppb - parts per billion
pCi/L - picocuries per liter is a measure of the radioactivity in water. A picocurie is 10⁻¹² curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute. **N/A** - Non-Applicable

**Effective January 2004, EPA lowered the MCL for TTHM from 100 ppb to 80 ppb.

Water 💧 Use It Wisely

Metro Water District strongly encourages you to use efficiently our safe drinking water. Our groundwater is a precious resource here in the desert that we should use wisely.

💧 **Receive \$50** (and save water and money) for installing a gray water or water harvesting

system OR replacing your large gallon toilet with an ultra-low-flush toilet.

- 💧 **Check regularly for leaks**, both inside and outside. A little leak can drain your wallet.
- 💧 **Water Less!** Most plants can survive with less water than you think. Water deeply and less frequently.

Voluntary Monitoring in 2004

Metro tests more often for some constituents than required by EPA or tests for constituents presently not regulated.

Water Quality Parameter	Levels Detected by Metro Water Highest & Lowest		Highest Detected Level Allowed (EPA's MCL)*	Ideal Goal (EPA's MCLG)*	Units*	Potential Sources of Contaminant
Arsenic	15	<2	50	N/A	ppb	Erosion of natural deposits; Runoff from agriculture.
Radon**	392	125	4000 / 300** (proposed)	0	pCi/L	Decay of naturally occurring radium deposits.

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MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) - 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. **ppb** - One part per billion **pCi/L** - Picocuries per liter is a measure of the radioactivity in water. A picocurie is 10⁻¹² curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute.

N/A - Non-Applicable

****RADON** - The MCL proposed for radon is 300 pCi/L with a proposed Alternative MCL of 4,000 pCi/L if combined with state approved Multi Media Mitigation (MMM) Program. The MMM Program is a four stage process that heavily involves public participation to achieve and quantify indoor radon reduction in new and existing homes, schools and other dwellings.

*****Effective January 2004, EPA lowered the MCL for Total Trihalomethanes to 80 ppb.**

Arsenic

EPA has established that water providers ensure by January 2006 there is no more than 10 parts per billion (ppb) of arsenic in the water delivered. At present, 50 ppb of arsenic is allowed under the Safe Drinking Water Rules.

Arsenic is a naturally-occurring mineral. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have increased risk of getting cancer.



Metro Water tested its wells for arsenic in 2004. The highest level found during the compliance sampling was 12 parts per billion (ppb) at one of Hub's five wells.

The other four wells were 2.5, 3.6, 4.3 and 10 ppb. All of the results were lower than the 50 ppb allowable under the Safe Drinking Water Act.

Metro Water is drilling a new well to see if the arsenic levels can be mitigated in a cost-effective way.

Source Water Assessment

In 2004, the Arizona Department of Environmental Quality (ADEQ) completed a source water assessment for the five wells used by Metro-Hub. The Assessment reviewed if adjacent land uses may pose a potential risk to the groundwater sources. Land uses such as gas stations, landfills, dry cleaners, agriculture



fields, wastewater treatment plants, and mining activities were not found near the sources. Since ADEQ identified no adjacent land uses, the risk to the source water was ranked low by ADEQ from land uses potentially affecting each water source.



Residents can help further protect the water sources by taking hazardous household chemicals to hazardous material collection centers and limiting pesticide and fertilizer use.

Electronic copies are available from ADEQ at dml@azdeq.gov.

For more information, call Michael Block, District Hydrologist with Metro Water District at 575-8100 or visit the ADEQ's Source Water Assessment and Protection Unit website at: www.azdeq.gov/environ/water/dw/swap.html.

Help Protect Our Groundwater

Metro Water takes hundreds of samples each year to ensure you have safe drinking water.

You can help protect our drinking supply by correctly disposing of hazardous waste at a free disposal site. The collection site is open the first Saturday, 8:00 a.m. - 12:00 p.m., of each month at the City of Tucson's Eastside City Hall, 7575 E. Speedway Blvd.

For more information, you can call 690-5749.

**For more information about your drinking water or this report,
please call us at 575-8100.**