

# Water Quality

## Report 2005



Public water systems, like San Antonio Water System (SAWS), are required by law to report every year on the type and quantity of substances that are in our water. This law – the Safe Drinking Water Act (SDWA) that was amended by Congress in 1996 – has specific guidelines concerning drinking water, as well as methods of testing, and how often testing is conducted. The data in this Water Quality Report was recorded within the last five years according to SDWA regulations.

The Environmental Protection Agency (EPA) administers the SDWA to make sure tap water is safe to drink by restricting the presence of contaminants in public water systems. Bottled water, on the other hand, is regulated by the Food and Drug Administration (FDA), which limits contaminants for similar protection to the public health.

In addition to SAWS and the Edwards Aquifer Authority conducting testing on the purity of water from the Edwards Aquifer, the Texas Commission on Environmental Quality (TCEQ) is also reviewing the Edwards and the Trinity aquifers as part of its assessment of all of Texas' drinking water sources.

The Texas Commission on Environmental Quality (TCEQ) has completed Phase I of the Source Water Assessment of the water sources used by San Antonio Water System. The 1996 amendments to the Safe Drinking Water Act require all states to assess their public water sources and provide the results to each respective water system. The assessment is developed with the goal of providing public water systems with useful information that will help protect our source water. The SAWS system was determined to be susceptible to some contaminants using criteria developed by TCEQ in its federally approved source water assessment program. The assessment report consists of maps showing the assessment area, an inventory of known land use activities of concern and documentation of specific contaminants of concern. Consumers may access this information by calling 704-SAWS (7297).

## Our Commitment to You

SAWS has a long-term commitment to providing our customers with excellent drinking water, which has been proven through the years. Since 1936, SAWS has been rated as a superior water system by the TCEQ.

Your confidence in San Antonio's water supply is important to us at SAWS. We are committed to providing reliable, quality water. We are also committed to providing leadership in managing San Antonio's water resources.



## Where Our Water Comes From

Water drawn from rivers and lakes is called "surface water". Water from wells is called "ground water". In San Antonio, our drinking water is currently derived as ground water from the Edwards and Trinity Aquifers. SAWS started delivering Trinity Aquifer water to certain customers in May of 2002.

The exact source of the water is the Lower Glen Rose and Cow Creek formations of the Trinity Aquifer. This marks the first time that SAWS customers have ever received drinking water from their tap other than Edwards Aquifer water.

SAWS is expanding our wellhead protection program, increasing our knowledge of water sources, and continuing our commitment to educating the public. Further, we have developed a contingency plan in the event of source water contamination. As new drinking water sources are acquired, SAWS will implement additional Wellhead/Source Water Protection Programs to continue to ensure the quality of our water.

## What's In Our Water

The technical term for anything other than water is "contaminant." It is natural for drinking water to contain contaminants, but as you will see, San Antonio's water is well within allowable limits. 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.

If you would like more information about contaminants and potential health effects, contact the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

## Special Notice

### For Elderly, Infants, Cancer Patients, People with HIV/AIDS or Immune Problems:

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly, or immuno-compromised persons such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (1-800-426-4791).

# Types Of Contaminants

Sources for 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.

Contaminants that may be present in source water include:

- Microbiological contaminants, such as viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Cryptosporidium is an example of a microbiological contaminant affecting surface water sources. Since SAWS uses underground aquifers as water sources, Cryptosporidium is not a tested contaminant.
- Inorganic contaminants, 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;

- Pesticides and herbicides, which may have a variety of sources such as agriculture, urban stormwater runoff and residential uses;
- Organic chemical contaminants which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff and septic systems and;
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

Contaminants may be found in drinking water and may cause taste, color or odor problems. These types of problems are not necessarily causes for health concerns. For more information on taste, odor or color of drinking water, contact SAWS Customer Service Department at (210)704-SAWS (7297).

## Understanding The Charts

**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 margin of safety.

**Maximum Contaminant Level (MCL):** 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.

**Maximum Residual Disinfectant Level (MRDL):** 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.

**Maximum Residual Disinfectant Level Goal (MRDLG):** 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.

**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water

system must follow.

**Not regulated:** The contaminant is not currently regulated by the Environmental Protection Agency.

**pCi/l:** Picocuries per liter. A measure of radioactivity in water.

**ppm:** Parts per million. One part per million equals one teaspoon in 1,302 gallons, which is enough water to fill a typical bathtub more than 40 times.

**ppb:** Parts per billion. One part per billion is equal to one teaspoon in 1,302,000 gallons – enough to fill a typical bathtub more than 40,000 times.

**N/A:** Not applicable

**ND:** Not detected

**Points-of-entry:** Entry point to the distribution system which is representative of each well after disinfection.

Remember that these substances are shown in parts per million or parts per billion. As you will see in these charts, water delivered by SAWS is of excellent quality.

Substance	Test Year	Concentration Range Found	Highest Concentration Found	MCL/MRDL	MCLG/MRDLG	Possible Source
Nitrate (ppm)	2004	0.98 – 2.5	2.5	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Barium (ppm)	2004	0.033 – 0.12	0.12	2	2	Discharge from drilling wastes; discharge from metal refineries; erosion of natural deposits.
Fluoride (ppm)*	2004	0.17 - 0.8	0.8	4	4	Erosion of natural deposits; Discharge from fertilizer and aluminum factories.
Tetrachloroethylene (ppb)	2004	ND - 0.6	0.6	5	0	Leaching from PVC pipes; discharge from factories and dry cleaners.
Gross alpha adjusted (pCi/l)	2004	ND - 2.9	2.9	15	0	Erosion of natural deposits.
Chlorine (ppm)	2004	0.06 - 1.4	1.4	4	4	Water additive used to control microbes
Total Xylenes (ppm)	2004	ND - 7.9	7.9	10	10	Discharge from petroleum refineries or chemical factories
Ethyl Benzene (ppb)	2004	ND - 2.1	2.1	700	700	Discharge from petroleum refineries
Gross Beta (pCi/l)	2004	ND - 3.5	3.5	4	0	Erosion of natural deposits

\* Fluoride in the form of hydrofluorosilic acid (H<sub>2</sub>SiF<sub>6</sub>) was added to SAWS drinking water as of August 2002.

## Other Substances (2004)

Substance	Concentration Range (ppm)	Average Concentration Found (ppm)	MCL (ppm)
Calcium	65 - 93.3	79.7	Not Regulated
Chloride	15.8 - 22.0	18.4	250
Copper	0.00592 - 0.0209	0.013	1
Magnesium	12.1 - 42.9	26.6	Not Regulated
Sodium	9.91 - 11.3	10	Not Regulated
Sulfate	18.6 - 37.0	32	250
Total Hardness <sup>a</sup>	278 - 348	308	Not Regulated
Total Alkalinity <sup>a</sup>	220 - 294	253	Not Regulated
Total Dissolved Solids	322 - 448	355	500
Zinc	0.0101 - 0.0432	0.021	5

<sup>a</sup> as Calcium Carbonate

### Microbiological Contaminants Monitoring (2004)

Substance	MCL	Amount Found	Source
Total Coliform (presence)	b	Highest Monthly % of positive samples 3.61%	Naturally present in the environment
Fecal Coliform (presence)	c	1	Human and animal fecal waste

<sup>b</sup> Presence of coliform bacteria in 5% or more of the monthly samples.

<sup>c</sup> A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. coli positive

### What Are Coliforms?

Total coliform bacteria are used as indicators of microbial contamination of drinking water because testing for them is easy. While not disease-causing organisms themselves, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore, their absence from water is a good indication that the water is microbiologically safe for human consumption.

Fecal coliform bacteria and in particular, E. coli are members of the coliform bacteria group originating in the intestinal tract of warm-blooded animals and are passed into the environment through feces. The presence of fecal coliform bacteria (E. coli) in drinking water may indicate recent contamination of the drinking water with fecal material. The table above indicates whether total or fecal coliform bacteria were found in the monthly drinking water samples submitted for testing last year.

### Additional Required Monitoring - No MCL's<sup>d</sup> (2004)

Substance <sup>e</sup>	Range Detected (ppb)	Average Concentration (ppb)	Reason for monitoring
Chloroform	ND - 0.9	0.45	<sup>d</sup> These values are from points-of-entry <sup>e</sup> Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.
Bromodichloromethane	ND - 2.9	1.43	
Dibromochloromethane	ND - 5.4	1.7	
Bromoform	ND - 4.2	1.32	

### Lead and Copper Results<sup>f</sup> (2004)

Substance	90th Percentile	Action Level	Number of residences exceeding Action Level	Possible Source
Lead (ppb)	4.3	15	0	Corrosion of household plumbing
Copper (ppm)	0.215	1.3	0	

<sup>f</sup> These two metals enter the water because of corrosion of household plumbing. Many older homes have copper pipes that were put together with lead-based solder. The 90<sup>th</sup> percentile means that 90 percent of the homes measured had less than that. A total of 50 residences were monitored.

### Other Testing Performed

In 2003, San Antonio Water System participated in the Unregulated Contaminant Monitoring Rule. About 2,800 large and 800 small public water systems participated in this monitoring nationwide. The U.S. Environmental Protection Agency will use the results to estimate national occurrence. None of the twelve contaminants tested for during this monitoring were found in SAWS water. For more information on this testing, you can call the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

## Contact Us

### By Phone

704-SAWS (704-7297)

Our Customer Service Lines are open 24 hours a day for:

- Customer Service help
- Reporting leaks, main breaks, or sewer back-ups,
- Contacting us for water quality concerns

### On The Web

[www.saws.org](http://www.saws.org)

Our website has the latest news releases and program information on water issues.

### In Your Neighborhood

(210) 704-7333

SAWS Community Relations team is involved in homeowners associations and neighborhood meetings, schools and community gatherings. Call us for more information about how we can assist in your neighborhood.

### Visit Us

#### Customer Service Locations

Downtown 1001 E. Market  
 Eastside 915 South WW White Rd.  
 Westside Las Palmas Mall

Hours: 8 a.m. to 5 p.m.

If you would like more information or a copy of this Water Quality Report in Spanish, please call 704-7350.

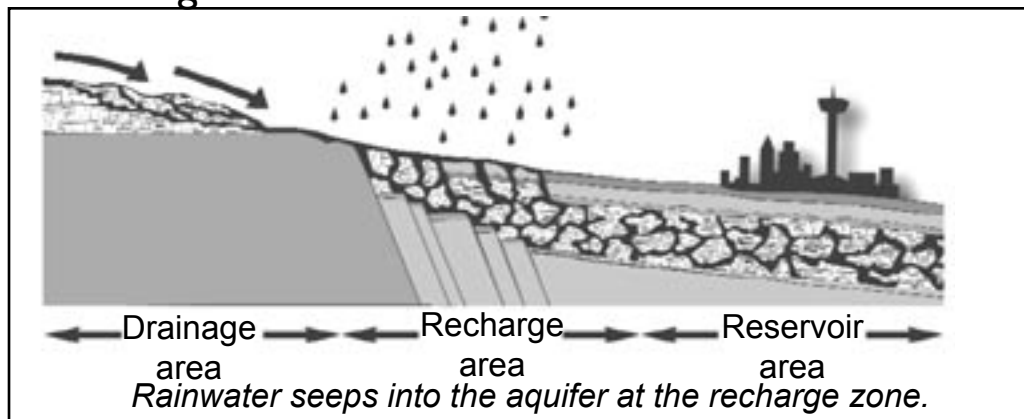
Este reporte incluye información sobre su agua potable. Si desea más información o una copia de este reporte en español, por favor llame al 704-7350.

### Distribution Sampling for By-Products of Drinking Water Chlorination (Disinfection) (2004)

Substance	Concentration Range Found	Highest Concentration Found	MCL	MCLG
<b>Trihalomethanes (THMs) (ppb)</b>				
Chloroform (ppm)	ND - 5.7	5.7	**	**
Bromodichloromethane	ND - 8.5	8.5	**	**
Dibromochloromethane	ND - 11.0	11.0	**	**
Bromoform	ND - 6.1	6.1	**	**
Total THMs	ND - 18.3	18.3	80	N/A
<b>Haloacetic Acids (HAAs) (ppb)</b>				
Chloroacetic Acid	ND - 7.0	7.0	**	**
Monochloroacetic Acid	ND	ND	**	**
Dichloroacetic Acid	ND - 7.4	7.4	**	**
Bromochloroacetic Acid	ND - 5.3	5.3	**	**
Trichloroacetic Acid	ND	ND	**	**
Monobromoacetic Acid	ND	ND	**	**
Dibromoacetic Acid	ND - 8.7	8.7	**	**
Total HAA	ND - 16.2	16.2	60	N/A

\* MCL and MCLG have not been established by EPA at this time.

## Protecting Our Water Sources



An aquifer is a geologic formation which may contain sand, gravel, clays and/or limestone that collects and holds rainwater as it flows through the ground. This happens over the recharge zone.

It is important to protect the recharge zone from contamination such as fertilizer, petrochemical products, and other chemical contaminants because they might eventually filter into the water supply in the aquifer. There are strict regulations about what may and may not be discharged over the recharge zone, and aquifer water is checked and analyzed regularly to be sure it is safe to drink.

If you would like to find out when SAWS Board meetings and Town Hall meetings are scheduled, call SAWS Communications and Community Outreach Office at 704-7333. You can also check our web site on the internet at [www.saws.org](http://www.saws.org).

If there is anything about this report that you do not understand or if you would like more information, please call SAWS Customer Service Department at (210)704-7297. Additional copies of the 2005 Water Quality Report are available at any of our Customer Service Centers.



*Our Water.*



*Our Future.*

