

# 2000 Water Monitoring Summary

## Ames Water Passes All Tests

Ames water has been tested for approximately 80 regulated contaminants in addition to dozens of unregulated ones. The table lists the water monitoring results for substances found in Ames' water during the past five years. No substance was

detected that exceeded limits set by the federal government or the State of Iowa. Not all substances are required to be tested each year; some substances listed in the table were detected in previous years' testing.

Substance (units)	Test Date	No. of Samples Tested	Highest Allowed Level(MCL)	Highest Level Detected	Lowest Level Detected	Ideal Goal (MCLG)	Typical Source of Substance
<b>Detected Substances Regulated Prior to Distribution</b>							
Alpha Emitters (pCi/L)	1997	2	15.0	2.0	ND	---	Natural geological deposits
Fluoride (ppm)	2000	1298	4.0	1.58	0.54	<4.0	Additive, natural deposits
Turbidity (NTU)	2000	1005	TT	0.21*	0.01	---	Soil runoff
<b>Detected Substances Regulated in the Distribution System</b>							
Trihalomethanes, Total (ppb)	2000	4	100	2.0	ND	---	Disinfection by-product
Total Coliform Bacteria	2000	654	Found in <5% of samples per month	Found in 1.9% of samples in three months**	Found in 0% of samples in nine months	Found in no samples	Naturally present in the environment
<b>Unregulated Detected Substances</b>							
Haloacetic Acids (ppb)	1999	4	—	3.0	2.0	—	Disinfection by-products
Chlorate (ppb)	2000	5	—	0.26	0.04	—	Disinfection by-product
<b>Substances Regulated at the Customers' Tap</b>							
Substance (units)	Test Date	Number of Samples Tested	AL: 90% of Samples Must Be Below This Level	Number of Samples Over AL	90% of Samples Were Below This Level	Typical Source of Substance	
Lead (ppb)	1998	49	15	1	ND	Plumbing corrosion	
Copper (ppm)	1998	49	1.3	0	0.02	Plumbing corrosion	

**Key to table:** MCL: Maximum Contaminant Level. The highest amount allowed in drinking water. Set as close to MCLGs as feasible using the best available treatment technology. MCLG: Maximum Contaminant Level Goal. The level below which there is no known or expected risk to health. MCLGs allow for a margin of safety. AL: Action Level. The concentration which, if exceeded, triggers treatment or other requirement the system must follow. PPM: parts per million. PPB: parts per billion. ND: not detected. pCi/L: pico curies per liter, a measure of radioactivity. NTU: nephelometric turbidity units. TT: value determined by available treatment technology. \*No samples exceeded the limit during 2000. \*\*One sample that tested positive for total coliform also tested positive for fecal coliform. Follow-up testing was negative for both total and fecal coliform.

## The Water Quality Tests



Ames drinking water is routinely tested throughout the treatment process, as it leaves the water treatment plant and from at least 50 homes and businesses monthly all over town. Many water samples are tested for quality in our own laboratory every day, and additional samples are sent to the state health lab in Iowa City throughout the year.

These samples are analyzed for various substances either occurring naturally in the environment or produced from human activities. As water

travels over the surface of the land or through the ground, it can dissolve naturally occurring minerals, radioactive material if present, and can pick up substances resulting from animal life processes and human activity. Contaminant groups that we monitor include: **Microorganisms** such as bacteria, which may come from wastewater, septic systems, agriculture, and wildlife.

**Inorganics** such as salts and metals, which occur naturally or result from runoff, wastewater discharges, oil and gas

production, mining, or farming. **Pesticides and herbicides**, which may come from agriculture, runoff, and residential uses.

**Organic chemicals**, including synthetic and volatile organics, which are industrial and petroleum process by-products that can come from gas stations, runoff, and septic systems.

**Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.



**City of Ames  
Water and Pollution  
Control Department  
300 East Fifth Street  
Ames, Iowa 50010  
(515) 239-5150**



**Utility Maintenance:  
(515) 239-5550**

**Customer Billing:  
(515) 239-5120**

**Web Site:  
[www.city.ames.ia.us/waterweb](http://www.city.ames.ia.us/waterweb)**

# City of Ames 2001 Water Quality Report



Since 1891, the citizens of Ames have been drinking safe tap water produced by the Ames Water Plant.

This annual water quality report provides you, the consumer, a summary of the results of the many stringent water quality tests required by the U.S. Environmental Protection Agency (EPA). These water quality tests are frequently performed on water samples taken from locations throughout the community to ensure residents are receiving safe, quality water.

The 1996 amendments to the Safe Drinking Water Act contain extensive provisions for consumer involvement and right-to-know that herald a new era of public participation in drinking water protection. These provisions are founded on the principle that consumers have the right to know what is in their drinking water and where it comes from before they turn on their tap. It is our intention that this report go beyond merely complying with legal provisions; we also intend that it meet the spirit of the principle on which the Safe Drinking Water Act was based.

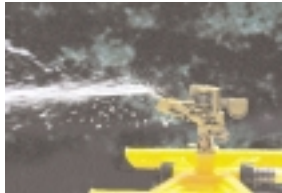
If you have questions regarding your drinking water or the Ames water system, please contact the Ames Water Plant at the numbers seen at the left.



# Water Conservation

Because of dry weather in recent years, Ames' water supply wells are at lower-than-normal levels. There is a possibility that mandatory conservation measures will be needed this year. Conserve water by following a few easy water-saving practices. The "Water Conservation Top Ten List" can save thousands of gallons each month, help reduce your water, electric and gas bill, and will help the City of Ames effectively manage water supplies and demand so that sufficient reserves are always on hand for fire protection and essential functions.

1 Water your lawn only when it needs it. If your grass springs back after you step on it, it doesn't need watering. Mow the grass to a length of 2-3" to prevent evaporation. Efficient lawn watering can save 750 to 1,500 gallons per month.



2 Fix leaky faucets and joints. Saves 20 gallons per day per leak repaired.

3 Don't run the hose while car washing. Better yet, wash at a commercial car wash. Saves 150 gallons per wash.



4 Install water-saving shower heads or use flow-restricting inserts available from the Water Plant. Saves 500-800 gallons per month.



5 Run only full loads in dishwashers and clothes washing machines. Saves 300-800 gallons per month.

6 Shorten your shower. A one- to two-minute reduction can save 700 gallons per month.

7 Use a broom instead of a hose to clean pavement. Saves 150 gallons per time.

8 Don't use the toilet as an ashtray or wastebasket. Saves several gallons per flush.

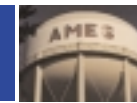
9 Capture unused tap water for watering plants. Saves 200-300 gallons per month.



10 Mulching around trees and plants can save 750 to 1,500 gallons per month.



# Treatment → Monitoring → Distribution



## Water Monitoring

Ames water is closely monitored and tested by Water Plant personnel. Samples are frequently and regularly collected from homes and businesses throughout the City and brought to the Water Plant for testing in its state-certified laboratory to ensure quick lab results. Additional water monitoring is also performed by the University Hygienic Laboratory in Iowa City. Ames residents will know immediately if there ever is a problem with the water. *For the calendar year 2000, the Ames Water Plant received no drinking water violations—its water met all federal and state regulations for safety and quality.*



Laboratory Analyst Wayne Wierson is shown here in the laboratory performing a water quality analysis.

## Water Treatment

The Ames Water Plant obtains water from 19 groundwater wells located in the geological formation known locally as the "Ames aquifer." Before water is distributed throughout the city, it undergoes several treatment steps to improve quality.

<b>aeration</b>	<b>recarbonation</b>
<b>softening</b>	<b>filtration</b>
<b>disinfection</b>	<b>fluoridation</b>

During treatment, the water is tested at the plant hundreds of times each day. At the right are some of the treatment parameters tested and the results obtained during 2000.	Parameter	Levels Found
	pH	8.9-10.5
	Hardness	110-272 ppm
	Iron	0-0.29 ppm
	Chlorine	1.78-3.40 ppm

## Water Distribution

After treatment, the water is pumped to storage and to homes and businesses throughout the City. The City is currently working to divide into two pressure zones, which will allow the water department to efficiently manage flow and water pressure. Construction is planned to begin in the spring of 2002 on a new elevated water tank near Highway 30 at the Boone/Story County line. This additional storage facility will maintain water pressure on the west side of Ames.

# Drinking Water Issues in the Media



## Radon

Radon is a radioactive gas that occurs naturally in groundwater in our geographic region. It can enter homes through the foundation or be released from tap water during normal household use. When last tested in 1999, radon levels in Ames' water varied from 28 to 50 pCi/L, far below the EPA limit of 300 pCi/L.

## Arsenic

You may have heard about EPA drinking water rule changes for the mineral arsenic. Although it is a dietary requirement, too much arsenic can cause health problems. Arsenic can get into water sources primarily by erosion of natural geological deposits, but human activity can also play a role. For instance, arsenic was widely used in the dust bowl era to control plagues of grasshoppers. No arsenic has been found in Ames' water sources.

## MTBE

Many people across Iowa saw a *60 Minutes* broadcast on CBS last year that focused on contamination of drinking water supplies by the gasoline additive MTBE. Like ethanol, MTBE is used to decrease automobile emissions in urban areas primarily on the east and west coasts of the U.S. **MTBE typically is not used in Iowa as a gasoline additive.** Ethanol, a corn-derived product, is a frequent alternative to MTBE. It is used to decrease automobile emissions in Iowa and most other midwestern states. Ames water has been tested for MTBE at the University of Iowa Hygienic Laboratory and it has never been detected. The Ames Water Plant continues monitoring for MTBE.

# Important Information About Water From:



## Why does EPA Allow Anything in the Water?

Water is a good solvent, and many substances are dissolved by water on contact. At low levels, they are generally not harmful in our drinking water. Removing all substances would be extremely expensive and would not necessarily improve the water quality. In fact, it could result in an inferior product. Many naturally occurring minerals are essential nutrients and may improve the taste of drinking water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Their presence 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 at (800) 426-4791.

## Who Decides the Water is Safe to Drink?

In order to ensure that tap water is safe to drink, U.S. EPA prescribes regulations that limit the amount of certain substances in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must also provide protection for public health.

## Do At-Risk People Need to Take Special Precautions?

Some people may be more vulnerable to contaminants found 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. Environmental Protection Agency/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hot-Line (800-426-4791).

**Q** If you would like to ask **questions** about your drinking water or give ideas to improve service, please call the Ames Water Plant at 239-5150 or e-mail us at [propes@city.ames.ia.us](mailto:propes@city.ames.ia.us). The Ames City Council is the governing body overseeing the Ames Water Plant. You can also bring your ideas to the public forums at the City Council meetings that are generally held at 7:00 p.m. on the second and fourth Tuesdays each month in the City Council Chambers at 515 Clark Avenue.