



# 2006 Water Quality Report

University of Illinois at Urbana-Champaign

## Introduction

This 2006 Water Quality Report from the University of Illinois at Urbana-Champaign provides information about the source of campus drinking water, contaminant testing, general health precautions, and how calendar year 2006 sample results compare to regulatory requirements. **The U of I is pleased to report that all United States Environmental Protection Agency (USEPA) and Illinois EPA (IEPA) drinking water quality standards have been met, with no violations of maximum contaminant levels (MCLs).** If you have any questions about this report or the U of I drinking water quality, please contact Facilities & Services, Safety & Compliance at (217) 265-9828 or via e-mail at [malvestu@uiuc.edu](mailto:malvestu@uiuc.edu). A copy of this report is available from our web site at <http://www.fs.uiuc.edu/waterquality/2006wqr.pdf> or by contacting Safety & Compliance.

## **What is the Source of the U of I Drinking Water?**

The U of I purchases drinking water from Illinois-American Water Company (IAWC), Champaign District. IAWC water is delivered through five separate metered feeds into the UIUC water distribution system, which consists of approximately 44 miles of water main. The U of I distributes this water to the majority of campus buildings. However some buildings are connected directly to the IAWC water distribution system. As such, the distribution system is considered a public water system. The following information about IAWC, Champaign District water supply is from their 2006 Annual Water Quality Report, available by calling 1-800-422-2782 or visiting their web site at <http://www.illinoisamerican.com>.

The source of supply for IAWC, Champaign County District is groundwater. Twenty-one wells deliver water for treatment to two lime-softening plants: the East Plant, located in Urbana, and the West Plant, located in Champaign. The wells are primarily located in two areas. The north well field taps the Glasford Aquifer and consists of 7 wells that supply the East Plant. The west well field consists of 14 wells that draw from the Mahomet Sands Aquifer and supply water to both the East and West Plants. An aquifer is a porous underground formation (such as sand and gravel) that is saturated with water. The wells range from 150 to 366 feet in depth and are protected from surface contamination by geologic barriers.

The IEPA has completed a source water assessment for the Champaign County system. In this report, IEPA indicates that the wells supplying Champaign County are not geologically sensitive. To determine Illinois American Water Company (IAWC) – Champaign's susceptibility to groundwater contamination, a Well Site Survey Report from February 1991 and a source inventory conducted in 1999 by the Illinois Rural Water Association in cooperation with the Illinois EPA, were reviewed. Based on the information contained in these documents, potential sources of groundwater contamination are present that could pose a hazard to groundwater pumped by the Illinois American Water Company – Champaign' community water supply wells.

The Illinois EPA has determined that IAWC – Champaign Wells #35, #40, #41, #42, #43, #45, #46, and #47 are susceptible to inorganic chemical (IOC), volatile organic chemical (VOC) and synthetic organic chemical (SOC) contamination. This determination is based on a number of criteria including: monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and the available hydrogeologic data for the wells. The Illinois EPA has made recommendations to further minimize the risk to the facility's groundwater supply. If you would like additional information on the source water assessment, please contact Safety & Compliance at (217) 265-9828 or the Groundwater Section of the Illinois EPA at (217) 785-4787.

## **Protecting the Water You Drink**

In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit 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, which must provide the same protection for public health as public water systems.

The U of I is required to test water in its distribution system for coliform, lead, copper, trihalomethanes, and haloacetic acids. IEPA requires 15 samples per month to be analyzed for coliform. The U of I voluntarily analyzes 32 samples per month, more than double the IEPA requirements. Coliform bacteria was not detected in the samples collected during the 2006 calendar year for submittal to the IEPA. The most recent testing results for lead, copper, haloacetic acids and total trihalomethanes (TTHM) are provided in the Data Summary table at the end of this Report.

IAWC, Champaign District, tested for radon at points prior to entering the U of I campus distribution system in 2005. Finished water samples ranged from 0-100 pCi/L, with an average of 100 pCi/L, which is less than the limit currently proposed by the USEPA. There is presently no Federal limit on radon in drinking water. Radon is

a radioactive gas that comes mainly from the soil; however, some groundwater may also contain radon. Inhalation of radon gas has been linked to lung cancer. The contribution from drinking water is usually small compared to normal indoor levels. If you are concerned about radon in your home and would like information on how to have your home tested, contact the Champaign-Urbana Public Health Department at (217) 352-7961 or the National Radon Hotline at 1-800-SOS RADON.

## General Information About All Drinking Water

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it can dissolve naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Possible contaminants consist of:

- **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife
- **Inorganic Contaminants**, such as salts and metals, which may be naturally occurring or result from urban storm water 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 storm water 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 storm water runoff and septic systems
- **Radioactive Contaminants**, which may occur naturally or result from oil and gas production and mining activities

More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline (1-800-426-4791).

## Some Health Considerations

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. 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. USEPA and Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA Safe Drinking Water Hotline (1-800-426-4791).

## 2006 Data Summary

The following table lists the contaminants that were detected in your water. The presence of contaminants does not necessarily indicate that the water poses a health risk. The data in this table represents a combination of the testing results on finished water from the U of I distribution system and its parent supply, Illinois-American Water Company (IAWC), Champaign District. The U of I monitors water at points within the campus distribution system. IAWC monitors the parent water supply at points prior to entering the campus distribution system. Although not included in the following table, a complete listing of Non-regulated Contaminant Detections and Non-Detected Contaminants can be obtained by contacting Safety & Compliance at (217) 265-9828.

## 2006 Water Quality Data–Detected Contaminants

The U of I Samples Collected by the University within the Campus Distribution System  
IAWC Samples Collected within the Parent Water Supply by Illinois-American Water Company

<b>Lead and Copper</b>							
Contaminant (Units)	Sampled by; Date	MCLG	AL	90th Percentile	# Sites Exceeding AL	Violation?	Typical Source of Contaminant
Copper (ppm)	U of I 12/31/06	1.3	1.3	<0.100	0	NO	Corrosion of household plumbing; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	U of I 12/31/06	0	15	<5	0	NO	Corrosion of household plumbing; Erosion of natural deposits
<b>Regulated Contaminants</b>							
Contaminant (Units)	Sampled by; Date	MCLG	MCL	Level Found	Range of Detections	Violation?	Typical Source of Contaminant
Arsenic (ppb) <sup>1</sup>	IAWC 2004	0	10	1	1-1	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass & electronics production wastes
Barium (ppm)	IAWC 2004	2	2	0.063	0.056-0.063	NO	Discharge of drilling wastes & from metal refineries; Erosion of natural deposits
Total Haloacetic Acids (HAA5) (ppb)	U of I	NA	60	2.8	NA	NO	By-product of drinking water chlorination
<b>State Regulated Contaminants</b>							
Contaminant (Units)	Sampled by; Date	MCLG	MCL	Level Found	Range of Detections	Violation?	Typical Source of Contaminant
Sodium (ppm) <sup>2</sup>	IAWC	NA	NA	34	30-34	NO	Erosion of natural deposits; A water softener
Fluoride (ppm) <sup>3</sup>	IAWC	4	4	1.0	0.8-1.2	NO	Water additive that promotes strong teeth
<b>Radioactive Factors</b>							
Contaminant (Units)	Sampled by; Date	MCLG	MCL	Level Found	Range of Detections	Violation?	Typical Source of Contaminant
Beta/Photon Emitters <sup>4</sup> (pCi/l)	IAWC 2003	0	50	3	2-3	NO	Decay of natural and man-made products
<b>Bacterial Results</b>							
Contaminant (Units)	Sampled by; Date	MCLG	MCL	Level Found	Range of Detections	Violation?	Typical Source of Contaminant
Total Coliforms <sup>5</sup> (% pos/month)	U of I	0%	<5%	ND	NA	NO	Naturally present in the environment
<b>Other Compounds</b>							
Contaminant (Units)	Sampled by; Date	MCLG	MCL	Level Found	Range of Detections	Violation?	Typical Source of Contaminant
TTHM (Total Trihalomethanes) (ppb)	U of I	NA	80	ND	NA	NO	By-product of drinking water chlorination

### <sup>1</sup> Arsenic

Under the revised Arsenic Rule new MCLG and MCL values became effective January 23, 2006. The new values are 0 ppb and 10 ppb respectively.

### <sup>2</sup> Sodium

Sodium has no federal or state MCL. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

### <sup>3</sup> Fluoride

Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends an optimal fluoride range of 0.9 mg/l to 1.2 mg/l.

### <sup>4</sup> Beta/Photon Emitters

The MCL for beta particles is 4 mrem/yr. EPA considers 50 pCi/l to be a level of common concern.

### <sup>5</sup> Coliform

Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples in any month.

### Definition of Terms

<b>MCLG</b>	Maximum Contaminant Level Goal: The level of contaminant in drinking water, below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
<b>MCL</b>	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 technology.
<b>pCi/l</b>	Picocuries per liter, a measurement of the natural rate of disintegration of radioactive contaminants in water.
<b>AL Action Level</b>	The concentration of contaminant that, when exceeded, triggers treatment or other required actions by the water supply.
<b>mrem/yr</b>	Millirems/year, a measure of rate of radioactive decay
<b>ppm</b>	parts per million or milligrams per liter
<b>ppb</b>	parts per billion or micrograms per liter
<b>ND</b>	not detectable at testing limits
<b>NA</b>	not applicable

<b>Date Sampled</b>	If sample date appears, the Illinois EPA requires monitoring for the contaminant less than once per year because the concentrations do not frequently change. If sample date does not appear, monitoring was conducted in 2006.
<b>Level Found</b>	This column represents an average of sample result data collected during the same period. In some cases, it may represent a single sample if only one sample was collected. For lead & copper, the level found equals the 90 <sup>th</sup> percentile of all samples taken.
<b>Range of Detections</b>	This column represents a range of individual sample results, from lowest to highest, that were collected during the same period.