

## **IOWA STATE UNIVERSITY 2006 DRINKING WATER CONSUMER CONFIDENCE REPORT**

This document is intended to inform Iowa State University water consumers about their drinking water. Information provided in this publication represents a snapshot of 2005 water quality data. Included are details about where your water comes from, what it contains, and how it compares to the United States Environmental Protection Agency (EPA) and state standards.

### **SOURCE OF WATER**

Iowa State campus drinking water comes from underground wells owned by the City of Ames. The wells are 87 to 150 feet deep. The City of Ames treats the raw well water and then pumps it to Iowa State University's underground piping system.

### **CONTAMINANTS AND HEALTH EFFECTS**

Drinking water, including bottled water, may reasonably be expected to contain 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 EPA's Safe Drinking Water Hotline (1-800-425-4791).

The sources of drinking 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 raw well water include:

- 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 can 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 sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum productions, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

Some people may be more sensitive to contaminants in drinking water than the general population. Immuno-compromised individuals can be particularly at risk from infection. This includes someone who has undergone chemotherapy, has undergone organ transplants, has HIV/AIDS or other immune system disorders, is elderly, or is an infant. These individuals should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection are available from the Safe Drinking Water Hotline (1-800-426-4791).

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

### **DEFINITIONS USED IN CONTAMINATE SUMMARY**

|                             |   |
|-----------------------------|---|
| MCL                         | 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 treatment technology. |
| MCLG                        | Maximum contaminant Level goal – The level of a contaminant in drinking water below which there is no known or expected risk to health.   |
| µg/L                        | Micrograms per liter; is one part of contaminant per billion parts of water.  |
| Action Level                | The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which must be followed.   |
| 90 <sup>th</sup> Percentile | The 4 <sup>th</sup> highest reading from a group of 30 samples. The selection of the highest reading varies with the sample size.   |
| >                           | Greater than  |
| <                           | Less than   |

## CONTAMINATE SUMMARY

In 2005, 1,982 tests for six contaminants were taken for the Iowa State University underground piping system. Of all of the tests, one test was at levels higher than the EPA allows. Information about these tests is provided in the “Violations” section of this document.

| Substance                     | Highest Level Allowed (EPA's MCL)                                | Highest Level Detected                                  | Range of Detected Values                        | Year Sampled | No. of Samples | Ideal Goals (EPA's MCLGs) | Potential Source Substance                |
|-------------------------------|--|---|---|--------------|----------------|---------------------------|---|
| <i>REGULATED SUBSTANCES</i>   |  |   |   |              |                |                           |   |
| Total Coliform Bacteria       | 5% per month   | 17.5 % per month  | 0 – 17.5 % positive coliform bacteria per month | 2005         | 517            | 0%                        | Naturally present in the environment      |
| Fecal Coliform Bacteria       | 5% per month   | 0 % per month   | 0 % positive coliform bacteria per month        | 2005         | 517            | 0%                        | Human & animal fecal wastes               |
| Lead*                         | 90 <sup>th</sup> percentile at or above 15 µg/L (action level)   | 64 µg/L<br>90 <sup>th</sup> percentile = 9 µg/L<br># #  | <2 – 64 µg/L                                    | 2003         | 32             | 0 µg/L                    | Household plumbing fixtures               |
| Copper*                       | 90 <sup>th</sup> percentile at or above 1300 µg/L (action level) | 80 µg/L<br>90 <sup>th</sup> percentile = 80 µg/L<br>+ + | <50 – 80 µg/L                                   | 2003         | 32             | 1300 µg/L                 | Household plumbing fixtures               |
| Total Trihalomethanes (TTHM)  | 80 µg/L  | 3 µg/L  | 3 – 3 µg/L                                      | 2005         | 1              | NA                        | By-product of drinking water disinfection |
| Total Haloacetic Acids (HAA5) | 60 µg/L  | 6 µg/L  | 6 – 6 µg/L                                      | 2005         | 1              | 0                         | By-product of drinking water disinfection |
| <i>OPERATING PARAMETERS</i>   |  |   |   |              |                |                           |   |
| Chlorine Residual             |  | 2370 µg/L   | 0 - 2370 µg/L                                   | 2005         | 882            | No published limit        |   |

\* Iowa State University is not required to analyze lead & copper every year. The results shown are from the most recent sampling, which was 2003.

# # - One sample exceeded the 15 µg/L action level

+ + - No samples exceeded the 1300 µg/L action level

The City of Ames Contaminates Summary is available at the Water and Pollution Control Department section of the City of Ames web site at <http://www.city.ames.ia.us/waterweb/default.htm>

## CONTAMINANT DETECTION REPORT

None to report

## VIOLATIONS REPORT

Routine sampling occurs to detect the presence of drinking water contaminants. 40 routine coliform bacteria samples were collected in June 2005. 10 of those samples showed the presence of coliform. 30 additional repeat samples were completed in June. All samples tested negative for total coliform. 40 routine coliform bacteria samples were collected in July 2005. 8 of those samples showed the presence of coliform. 24 repeat samples were completed in July 2005. All samples tested negative for total coliform.

Monthly routine samples are collected and shipped to a certified testing lab to test for total coliform. Based upon the review of the information collected in June and July 2005, positive coliform results are believed to be associated with the packaging and shipping of the sample bottles to the testing lab. The routine packaging and shipping method was modified in August 2005 to improve the collection procedure. It should be emphasized that these **positive coliform results are not believed to be representative of the drinking water.**

Total coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed and this is a warning of potential problems.

Fecal coliforms are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely-compromised immune systems. None of the samples were found to have fecal coliforms.

City of Ames violations: Listed at the Water and Pollution Control Department section of the City of Ames web site at <http://www.city.ames.ia.us/waterweb/default.htm>

## QUESTIONS AND INPUT

If you have any question or suggestion on how our customer service can improve, you can contact the Iowa State University Utilities office at 515-294-8795. You can also go to the Iowa State University web site at <http://www.fpm.iastate.edu/> where this document is located. An e-mail link [cthompso@iastate.edu](mailto:cthompso@iastate.edu) is provided to address questions or provide suggestions.

Other sources of drinking water information on the web are available from the following organizations:

- United States Environment Protection Agency at [www.epa.gov/safewater/](http://www.epa.gov/safewater/)

- City of Ames Water and Pollution Control Department at <http://www.city.ames.ia.us/waterweb/default.htm>
- Iowa Department of Natural Resources at <http://www.iowadnr.com/water/drinking/index.html>