

CONSUMER CONFIDENCE REPORT 2019

Passion, Persistence, and Consistency.

I am frequently asked "What's the key to the great tasting water in Ames? Is there a secret recipe?" There is a key, but it's not a secret. All it takes is three words: passion, persistence, and consistency.

The employees who collectively make up the Ames Water Utility are passionate about their mission to protect public health by providing safe, plentiful drinking water with an award-winning taste. They are persistent in their drive to optimize the performance of the equipment and processes they oversee. And they strive for the highest level of consistency in the finished product, performing nearly 200 laboratory tests per day to ensure our high standards are being met every time you turn on the tap.

We take great pride in winning the "Best Tasting Water in Iowa" award four different times, including the past two years. But more than that, we take pride in the faith and trust Ames citizens place in us, and we work hard every day to earn that trust anew.

That's the real secret.



John R. Dunn,
Director Water &
Pollution Control



While it's easy to turn the tap and enjoy refreshing, delicious Ames water, have you ever wondered what happens before the water reaches your cup? The behind-the-scenes journey of Ames water may surprise you. Every step of the way, professionals at the Ames Water Treatment Plant are focused on one task: providing healthy, safe, great-tasting drinking water to Ames residents.

Underground aquifers are the source of Ames water. From 22 wells located around the community, water is pumped from as far as 120 feet below ground to the new Water Treatment Plant on East 13th Street. This "raw" water then goes through a series of steps to make it ready for distribution. Nine water operators oversee the treatment process. They monitor computer screens, test the water chemistry, document data, observe machinery, and trouble-shoot whenever necessary. Operators, who have achieved certification to work in the industry, are at the water treatment plant 24 hours a day, seven days a week, 365 days a year.

Water operators have a variety of educational backgrounds, but they all need to understand the science of water treatment, have a mechanical aptitude, and possess good customer service skills. In fact, don't be surprised if the operator conducting a water test is the same person who answers the telephone or guides a school tour. At the City of Ames, our operators bring a range of experience and have tenure stretching from six months to 25 years.

Ames operators often mention their concern for the environment, dedication to public service, and the importance of safe drinking water as the reasons they are committed to their career. The work is critical to a healthy community, and it's both challenging and rewarding. If you enjoy Ames water, please thank a water plant operator or maintenance worker!

| Substance (units) | Test Year | No. of Samples | Range | Average Value | Highest Allowed Level (MCL or MRDL) | Ideal Level (MCLG or MRDLG) | Typical Source of Substance |
|--|-----------|----------------|----------------------------------|----------------------------------|-------------------------------------|----------------------------------|--|
| SUBSTANCES TESTED FOR | | | | | | | |
| Nitrate (ppm) | 2018 | 42 | ND | ND | 10 | <10 | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| Total Coliform (P/A) | 2018 | 754 | Present in 0% of Monthly Samples | Present in 0% of Monthly Samples | Present in <5% of Monthly Samples | Present in 0% of Monthly Samples | Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other waterborne pathogens may be present, or that a potential pathway exists through which contamination may enter the drinking water. |
| Total Chlorine (ppm) | 2018 | 754 | 0.94-2.80 | 2.37 | 4 | <4 | Water additive used to control microbes. |
| Fluoride (ppm) | 2018 | 1,072 | 0.15-1.18 | 0.60 | 4 | <4 | Erosion of natural deposits; Water additive which promotes strong teeth. |
| Sodium (ppm) | 2018 | 1 | 35 | 35 | N/A | N/A | Erosion of natural deposits; Added to water during treatment process. |
| Nitrite (ppm) | 2018 | 41 | ND-0.094 | 0.02 | 1 | <1 | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| Chlorate (ppm) | 2018 | 2 | 0.13-0.15 | 0.14 | N/A | N/A | By-product of drinking water disinfection. |
| Chlorite (ppm) | 2018 | 2 | ND-0.04 | 0.04 | 1.0 | <0.8 | By-product of drinking water disinfection. |
| Total Trihalomethanes - TTHM (ppm) | 2018 | 2 | ND | ND | 80 | N/A | By-product of drinking water disinfection. |
| Bromochloroacetic Acid (ppb) | 2018 | 4 | 0.47-0.58 | 0.52 | N/A | N/A | These samples were collected as part of the requirements for the Unregulated Contaminant Monitoring Rule 4. |
| Bromodichloroacetic Acid (ppb) | 2018 | 4 | ND-0.58 | 0.54 | N/A | N/A | These samples were collected as part of the requirements for the Unregulated Contaminant Monitoring Rule 4. |
| Dibromoacetic Acid (ppb) | 2018 | 6 | ND-0.46 | N/A | N/A | N/A | These samples were collected as part of the requirements for the Unregulated Contaminant Monitoring Rule 4. |
| Dichloroacetic Acid (ppb) | 2018 | 6 | 0.76-1.60 | 1.07 | N/A | 0 | These samples were collected as part of the requirements for the Unregulated Contaminant Monitoring Rule 4. |
| Substances (units) | Test Year | No. of Samples | 90% of Samples Were Below | No. of Samples Above AL | Action Level (AL) | Ideal Level (MCLG or MRDLG) | Typical Source of Substance |
| SUBSTANCES REGULATED AT THE CONSUMERS TAP | | | | | | | |
| Lead (ppb) | 2018 | 66 | 3.8 | 2 | 15 | 0 | Corrosion of household plumbing systems; Erosion of natural deposits. |
| Copper (ppm) | 2018 | 66 | 0.02 | 0 | 1.3 | <1.3 | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives. |

Este informe contiene información importante acerca de su agua potable. Hage que alguien lo traduzca para usted, o hable con alguien que lo entienda.

ND: not detected by test method ppm: parts per million, same as milligrams per liter (mg/L) ppb: parts per billion, same as micrograms per liter (µg/L) MRDLG: maximum residual disinfectant level goal
MRDL: maximum residual disinfectant level NTU: nephelometric turbidity units TT: treatment technique, value determined by available treatment technology.

TERMS TO KNOW

Regulated substances have Maximum Contaminant Levels (MCLs) set by the EPA. This is the highest level of a contaminant that is allowed in drinking water. Some contaminants have Maximum Contaminant Level Goals (MCLGs). This is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for an additional margin of safety. MCLs are set as close to MCLGs as feasible using the best available water treatment process. Unregulated substances do not have established MCLs but are monitored regularly. If an unacceptable amount of any substance is ever found in our water, the City of Ames will notify residents immediately and take corrective action to eliminate the problem. The MCL for lead and copper is known as the Action Level (AL) which, if exceeded, triggers treatment or other requirements. If 90% of all samples tested are not below the action level concentration, then the water utility is required to implement treatment improvements to lower lead/copper levels. Other actions, such as public education and notices, may also be required.

LEAD

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Ames Water Treatment Plant is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

PROTECTING AGAINST LEAD

The Ames Water Plant produces water that helps lower the risk of lead contamination. Lead is not present when the water leaves the treatment plant, but can enter the drinking water when private service lines made of lead corrode. The Ames Water Plant makes corrosion less likely by maintaining a very specific water chemistry. Some parameters are

monitored continuously, and Water Plant operators perform an additional 200 tests daily to ensure that the water is unlikely to corrode lead pipes. For more detailed information about how we help limit lead exposure, visit www.CityOfAmes.org/Lead.

DRINKING WATER REGULATIONS

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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

SOURCE WATER EVALUATION

Ames' award-winning water originates in groundwater aquifers. The water in Ames' aquifers flows through the remnants of ancient riverbeds of Squaw Creek and the South Skunk River as they existed before the most recent glaciers changed the terrain. The City of Ames uses 22 wells to access the water in the layers of sand and gravel in these ancient riverbeds. In 2014, the Iowa Department of Natural Resources (IDNR) completed a source water evaluation for Ames. The evaluation determined that Ames' groundwater has the potential to be contaminated by leaking underground storage tanks, landfills, or improper hazardous waste disposal. As water travels over the surface or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. Water can also pick up substances resulting from human and animal activity. The City of Ames works diligently to ensure that contamination does not impact the Ames water supply. Interested citizens can request a copy of the IDNR source water evaluation at the City of Ames Water Treatment Plant.

SPECIAL HEALTH CONCERNS

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 people, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA's Safe Drinking Water Hotline (800-426-4791).

WATER TREATMENT PROCESS

The United States has some of the best public water supplies in the world. To make this happen, trained professionals work 24 hours a day to provide you with the best possible water.

FROM THE WELL - The Ames Water Treatment Plant provides treatment to ensure a safe, palatable supply of drinking water for its customers. Have you ever wondered how the underground water supply gets to you? It all begins when well water enters the treatment plant through an aerator. This vents dissolved gases to the atmosphere that would contribute undesirable taste and odor and interfere with subsequent treatment steps. Dissolved iron combines with oxygen in the air to form rust particles that are removed in a later treatment step.

LIME ADDED TO REMOVE HARDNESS - The water then flows into solids contact units where lime is added to raise the pH. In the center column, or solids contact zone, the lime forms solid particles which remove calcium and magnesium, minerals that contribute to hardness.

HARDNESS SETTLES OUT - The water then travels to the clarification zone of the solids contact unit where the insoluble calcium and magnesium particles settle to the bottom. These residuals, commonly known as sludge, flow to a lagoon and are allowed to dry. The residuals are recycled to farm fields as a soil conditioner.

CLEAN, FILTERED WATER - Next, water enters recarbonation tanks where carbon dioxide gas is diffused into the water to stop the softening reaction. After recarbonation, polyphosphate is added to stabilize the water and reduce scale build-up on the filters. Water is then filtered through beds of anthracite coal and sand. These filters remove fine suspended particles.

TO YOUR HOME - Finally, in accordance with recommendations from the U.S. Department of Health and Human Services and the U.S. Environmental Protection Agency, fluoride is added to the water for dental protection just prior to distribution to the community.

Water & Pollution Control Department
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Each year, the Iowa Section of the American Water Works Association conducts a water taste competition. This contest is held at the annual conference each October at various cities around Iowa. All water utilities in Iowa are invited to submit jugs of water to be judged in a "blind" taste test. Typically, the judges are local dignitaries in that particular city who test each sample for various categories such as water clarity, taste, smell, and even aftertaste.

Last year, the new Ames Water Plant won this award for the second consecutive year. This year, the conference is in Ames, so we'll have the "home field advantage" in trying to go three for three for the new Water Plant! But first, each state winner gets to submit samples to the national conference this June in Denver, Colorado.

Wish them luck as the City of Ames competes for best tasting water in the nation!



Iowa Section
 American Water Work Association
 2018 Water Taste Testing Competition
 Best Tasting Water in Iowa



Iowa Section
 American Water Work Association
 2017 Water Taste Testing Competition

Iowa Section
 American Water Work Association
 2007 Water Taste Testing Competition

Iowa Section
 American Water Work Association
 2001 Water Taste Testing Competition

The Ames City Council is the governing body that oversees the Ames water system. Bring your ideas to the public forums at the City Council meetings which are normally held at 6:00 p.m. on the second and fourth Tuesdays of each month in the City Council Chambers at 515 Clark Avenue.

For questions regarding the information in this report, or any questions related to your water, please contact the Ames Water Treatment Plant at 515.239.5150.

