

# GENERAL INFORMATION

## ***How can I get involved?***

The Dubuque City Council meets the first and third Monday of each month at 6:30 p.m. in the Carnegie-Stout Public Library Auditorium. Please feel free to participate in these meetings or call Water Department Manager Bob Green at (563)589-4291 or Water Pollution Control Plant Manager Jonathan Brown at (563)589-4176.

## ***Are we in compliance?***

The City of Dubuque Water Department has met all rules and regulations at this time, but during the period of January 1, 2006 – September 30, 2006 the following violations did take place: (see Violations Report on page 3).

- Monitoring (MOR) Iowa Administrative Code
- Treatment Techniques (Non-SWTR) – Lead
- AL (Pb/cu) 90th Percentile - Lead

Since then treatment modifications have been completed to be in compliance with these regulations.

## ***Is our water system meeting other rules that govern our operations?***

Yes, our water system meets the additional rules and regulations under which it must operate. In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health. The State and EPA require us to test our water on a regular basis to ensure its safety.

## ***Do I need to take special precautions?***

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline, 800-426-4791.

## ***Why are there contaminants in my water?***

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 EPA's Safe Drinking Water Hotline, 800-426-4791.

The sources of 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:

- \* Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agriculture 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 a variety of sources such as agriculture, 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 can also come from gas stations, urban stormwater runoff, and septic systems.
- \* Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

## ABOUT THE DATA

1. Most of the data presented in this table is from testing conducted between January 1 to December 31, 2006. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year.
2. Lead: In Dubuque, lead in drinking water is only found in homes with lead service lines and/or lead plumbing fixtures. Flushing your service line for one to two minutes will minimize exposure to lead in your drinking water. For more information call the City of Dubuque Water Pollution Control Laboratory at (563)589-4334 or you can call the EPA hotline at 800-425-4791.
3. Turbidity: Turbidity does not present any risk to your health. We monitor turbidity, which is a measure of the cloudiness of water, because it is a good indicator of the quality of water and the effectiveness of disinfectants.



## 2007 WATER DEPARTMENT CONSUMER CONFIDENCE REPORT

I am pleased to present the City of Dubuque Water Department's 2007 Consumer Confidence Report. This special report has been designed to inform you, the citizen, about the quality of water we have in this city. The City utilizes processes such as aeration, softening, and filtration to give our water the clean, refreshing taste that we all enjoy. In 1997, Dubuque's water was awarded the first place "Toast to the Tap" in the International Water Tasting and Competition! More recently, Dubuque's *Telegraph Herald* reported in September 2006 that Dubuque's tap water tied for first in overall judging against four brand-named waters in the newspaper's non-scientific taste test.

The dedicated staff at the Eagle Point Water Plant and water distribution operations at the Municipal Services Center work diligently to guarantee that the water from the City's wells arrives in your home clean and free of undesirable tastes, odors, and debris. If you would like more information about the water quality in the city of Dubuque, or would like to schedule a complimentary tour of our water plant facilities, please do not hesitate to call me at (563)589-4291 or e-mail me at [bgreen@cityofdubuque.org](mailto:bgreen@cityofdubuque.org).

Sincerely,

Bob Green  
Water Department Manager



## BACKGROUND

This report, required by the 1996 Safe Drinking Water Act Amendments, provides background information, definitions, and monitoring results which summarize our water's quality.

These reports are an annual requirement. Each year, the report will describe the water quality from the previous calendar year.

The City of Dubuque Water Department has always obtained its drinking water from wells. The department now has five shallow and four deep wells in service. Both types yield a very high quality water but the shallow wells are used as the primary source because they are more energy efficient.

The shallow alluvial wells are located on the Hawthorne Street boat ramp peninsula of the Mississippi River. A hydrological study found that a significant portion of their recharge water actually comes from the underlying bedrock aquifers despite their close proximity to the river. Well depths vary from 127' to 200' and all are cased to 100'. Individual well capacities range from 1.55 to 3.30 million gallons per day (MGD) and the theoretical combined capacity of all five is wells at 14.15 MGD.

The four deep wells are located within a 1,500-foot radius of the treatment plant. These wells are all cased to 500 feet and individual well depths vary from 1,560' to 1,800'. The Cambrian aquifer system is their primary source of water. The theoretical combined capacity of the deep wells is 9.6 MGD and individual well production ranges from 0.9 to 3.25 MGD.

The City of Dubuque obtains its water from the Cambrian aquifers, deep wells created during the Cambrian geologic period. These aquifers are not susceptible to contamination because the characteristics of the aquifers and overlying materials prevent easy access of contaminants to the aquifers. They are not susceptible to most contaminant sources, except through pathways to the aquifers such as abandoned or poorly maintained wells.

A detailed evaluation of your source water was completed by the Iowa Department of Natural Resources and is available from the Eagle Point Water Plant at (563)589-4291.

# ANALYTICAL REPORT

Dubuque Water Treatment Plant  
Dubuque, Iowa 52001

Report Date: 9-30-06  
PWS ID 3126052

## Definitions:

**MCLG:** The **Maximum Contaminate Level Goal** is the level of a contaminant in drinking water below which there is no known or expected risk to health. The maximum contaminant level goal allows for a margin of safety.

**MCL:** The **Maximum Contaminant Level** is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using best available treatment technology.

**AL: Action Level,** or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

## Abbreviations:

**mg/L (ppm):** milligrams per liter or parts million

**ug/L (ppb):** micrograms per liter or parts per billion

**N/A:** not applicable

**NTU:** Nephelometric Turbidity Unit, used to measure cloudiness in drinking water.

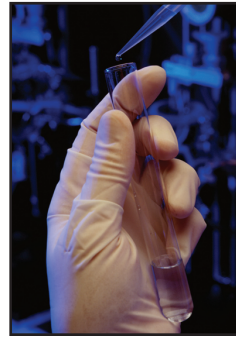
**ND:** not detectable at testing limits

**MGD:** million gallons per day

**TT:** treatment technique

< : less than

> : greater than



# CHEMICAL ANALYSIS

Detectable Microbial Contaminant	MCLG	MCL	Level	Range of Detection	Violations?	Typical Sources of Contamination
Barium (ppm)	2.00	2.00	.01		No	Discharge of drilling wastes and metal refineries; erosion of natural deposits
Copper (ppm)	1.3	AL=1.3	.03	No samples above action level	No	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb)	0	AL>15	18	7 sites above the AL out of 42 sites sampled	Yes	Corrosion of household plumbing systems
Fluoride (ppm)	4	4	1.02		No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Sodium (ppm)			13.8		No	Erosion of natural deposits
Sulfate (ppm)	400	400	17.5		No	Erosion of natural deposits
Turbidity (NTU)	N/A	TT	0.07	0.01-0.20	No	Typical groundwater
Total Trihalomethane (TTHM) (ppb)	0	80	48	33-78	No	By-product of drinking water chlorination
Gross Alpha Activity (pCi/L)	N/A	15	2.6	1	No	Erosion of natural deposits

# VIOLATION REPORT

Compliance Period		Violation Type	Contaminant
Begin Date	End Date		
1/1/2006	6/30/2006	Monitoring (MOR)*	Iowa Administrative Code
6/1/2006	9/30/2006	Treatment Techniques (Non-SWTR)**	Lead
6/1/2006	9/30/2006	AL (Pb/cu), 90th Percentile***	Lead

## DESCRIPTIONS & REMEDIES

**PLEASE NOTE:** Each of these violations was previously addressed and presented to the public and the media in November 2006 by way of utility bill mailing inserts and news releases. Please read the following explanations of the violations and actions that have been taken by City staff to prevent the violations from reoccurring. These treatment modifications and operating procedures have been implemented to continue to provide the citizens of Dubuque the excellent service and high-quality water to which they are accustomed.

### \* Monitoring (MOR) Iowa Administration Code

In review of this violation, it was discovered that all monitoring and water sampling requirements were completed and filed by City staff. The violation occurred due to an oversight by City staff not submitting these reports on time to the Iowa Department of Natural Resources per code.

*Operating procedures were evaluated and modified to prevent this type of violation from reoccurring.*

### Disinfection Mandate

The Water Department was notified by the Iowa Department of Natural Resources that it needed to increase its chlorine levels in Dubuque's water distribution system to comply with state standards.

*Increased chlorine levels and automated equipment have been installed to monitor levels for mandated compliance levels throughout the city water distribution system.*

### \*\* Treatment Techniques (NON-SWTR) - Lead

The City's water operating permit from the Iowa Department of Natural Resources recommends that the water pH level for processing be no less than 9.3. During this monitoring period, the pH level was found at times to be slightly less, ranging from 9.1 to 9.3. The lower level pH readings took place during chemical changes related to flow rate adjustments.

*The operating pH level has been set for no less than 9.4 to allow compensation due to the flow rate adjustments. This pH level is a non health-related issue.*

### \*\*\* AL (Pb/cu), 90th Percentile - Lead

This violation was discovered when City staff conducted its routine sampling program for lead and copper in the Dubuque water system. The test results from 42 locations showed that seven homes (all older homes with lead service lines) were above the action level of 15 parts per billion (0.015 milligrams per liter). This level exceeds the requirement that no more than 10 percent of those homes tested have first draw lead levels above the action level of 15 parts per billion or 0.015 milligrams per liter (mg/L).

**Lead in drinking water in Dubuque only occurs in those older homes with a lead service line or lead plumbing.** The potential for lead to appear in water occurs when water sits in contact with a lead service line or lead plumbing for an extended period, usually six or more hours. **The small amount of lead in these cases may be safely dealt with by allowing a small portion of the water to be flushed from the system prior to being used for drinking or cooking.** The amount of water needed to flush the system is quite small in comparison to the daily water used by a household, often no more than one gallon depending on the length of the service line. The water removed from the system may be used for other applications: flushing the toilet first thing in the morning or, after being away from home for an extended time, watering plants or washing dishes and laundry. By taking this simple precaution it is literally possible to "flush" your potential lead problem from drinking water away. If that simple approach is not considered acceptable, the remaining option is to have your lead service line replaced by a qualified plumbing contractor.

*Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.*